



DEPARTMENT OF DEFENSE PATIENT SAFETY PROGRAM

HEALTHCARE COMMUNICATIONS TOOLKIT

TO IMPROVE TRANSITIONS IN CARE



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TEAMSTEPPS

*Team Strategies and Tools to
Enhance Performance and
Patient Safety*



Strategies and Tools to Improve Healthcare Handoffs and Transitions



December 1, 2005

Dear Colleagues and Patient Safety Advocates,

The DoD Patient Safety Program has designed this *Healthcare Communications Toolkit to Improve Transitions in Care* to be used as a reference in your facility to structure “handoffs” and patient care transitions. Our intent is to provide guidance in the form of background information, tools, strategies for improving handoffs, recommendations to provider staff based on JCAHO requirements, human factors research, scientific evidence, and identifiable best practices.

This valuable Military Health System (MHS) resource expands on the teamwork communication solutions that have been implemented in many Military Treatment Facilities as part of the teamwork train-the-trainer program and cultural change initiatives associated with TEAMSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety). Through extensive research of the literature, the DoD Patient Safety Program’s Healthcare Team Coordination Program instructors recommend using the tool, “***I PASS THE BATON***”, a mnemonic which captures the key elements to be communicated in a structured method, with the opportunity to ask questions, clarify and confirm. This tool has the potential to dramatically improve handoffs and the quality, safety and continuity of care for our patients.

Creating an optimized structure and improving communications during care transitions is a vital component of care coordination and a key patient safety initiative to achieve a culture of safety within the MHS for our TRICARE beneficiaries. Along with your commitment and support, this toolkit will assist us in achieving this goal. We welcome your feedback and lessons learned, which can be forwarded to Patientsafety@tma.osd.mil. I appreciate your cooperation towards this effort to improve the quality and safety in the MHS.

Sincerely,

//Signed//

LTC (P) Steven Grimes
Director, DoD Patient Safety Program



Strategies and Tools to Improve Healthcare Handoffs and Transitions



“I PASS THE BATON”

- A mnemonic for Handoffs and Healthcare Transitions
- With opportunities to ask QUESTIONS, CLARIFY, and CONFIRM

I	Introduction	Introduce yourself and your role/job (include patient)
P	Patient	Name, identifiers, age, sex, location
A	Assessment	Presenting chief complaint, vital signs and symptoms and diagnosis
S	Situation	Current status/ circumstances, including code status, level of (un)certainty, recent changes, response to treatment
S	Safety Concerns	Critical lab values/reports, socio-economic factors, allergies, alerts (falls, isolation, etc.)
THE		
B	Background	Co-morbidities, previous episodes, current medications, family history
A	Actions	What actions were taken or are required AND provide brief rationale
T	Timing	Level of urgency and explicit timing, prioritization of actions
O	Ownership	Who is responsible(nurse/doctor/team) including patient/family responsibilities?
N	Next	What will happen next? Anticipated changes? What is the <u>PLAN</u> ? Contingency plans?



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Introduction

The Handoff Communications Toolkit is a product of the Department of Defense (DoD) Patient Safety Program and is based on the fundamental requirements for effective communication and teamwork the TEAMSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) curriculum, a DoD medical team training initiative. TEAMSTEPPS is an evidence-based curriculum designed to educate multi-disciplinary medical staff and personnel on critical team performance skills, including communication concepts to improve patient safety and quality. The goal of this toolkit is to assist healthcare facilities with tools and strategies to implement an effective and efficient handoff process, “*I PASS THE BATON*”, during transitions in care; fostering a culture of safety.



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Overview: Transitions in Care Must Be Improved

There is increased urgency to improve patient safety due to the new Joint Commission on Accreditation of Healthcare Organizations (JCAHO) National Patient Safety Goal Requirement 2-E which must be implemented by 1 January 2006. JCAHO requires all healthcare organizations to “implement a standardized approach to ‘handoff’ communications, including an opportunity to ask and respond to questions.”¹ The intent is to apply this requirement broadly across the continuum of care and across healthcare systems. For hospitals, examples of such transitions include:

- Doctor or nurse in the Emergency Department providing patient admission information to the hospitalist, charge nurse, or resident-attending team responsible for the next phase of care.
- Anesthesia provider to PACU nurse to ward nurse for a patient leaving surgery, transitioning through post-anesthesia care to an inpatient unit.
- Resident and/or Staff physician team to a night or weekend covering team before or after on-call responsibility for hospital inpatients on a service.
- Nurse-to-nurse change of shift or coverage while leaving the unit for a short time, exchanging information and care responsibility for specific patients.
- Discharge Summary information (reframed as transfer of care) from hospital care to primary care provider, nursing home staff, home health nurse, or to patient and family so they can carry out their responsibilities.

For the ambulatory setting, examples of handoff include:

- Office-based or ambulatory surgery unit to/from primary care provider and patient, relating the details of care, diagnoses, expectations and plan.
- Consultant and specialist to/from primary care provider and patient.
- Mental health professional to/from primary care provider and patient.

The need for a structured handoff process was prompted by several studies that focused on the root causes of sentinel events and poor medical outcomes across a variety of healthcare systems. These studies revealed that a majority of these avoidable adverse events were due to the lack of effective communication: lost information, misinterpretation, and misdirected or missed actions.

Recent advances in team communication have created an excellent opportunity to address this JCAHO requirement and improve quality and safety in health care across the United States. These advances include the development of the *I PASS THE BATON* tool, which provides a more accurate and structured method of transferring information during handoffs and transitions in patient care. In order to provide accurate, clear, and complete information during the multitudes of care transitions, the exchanges must address 1) care, treatment, and services; 2) current condition, and 3) any recent or anticipated changes. It is expected that questions and clarifications will occur, interruptions would be limited, and sufficient time must be allocated to the processes.



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JCAHO Requirements

Handoff Patient Safety Goal

In an effort to simplify the terminology in this Toolkit, transitions in patient care will be referred to as “handoffs.” The primary objective of a handoff is to provide accurate information about a patient’s/client’s/resident’s general care plan, treatment, services, current condition, and any recent or anticipated changes. The information communicated during a handoff must be accurate in order to meet JCAHO’s patient safety goal. JCAHO applies the 2-E requirement to: ¹

- Ambulatory health care
- Assisted living facility
- Behavioral health care
- Critical access hospital
- Disease specific care
- Hospital
- Laboratory
- Long term care
- Office based surgery
- Home care

The definition of a handoff can be very broadly interpreted. JCAHO recognizes various types of patient handoffs that include the following: ¹

- nursing shift changes
- physicians transferring complete responsibility for a patient
- physicians transferring on-call responsibility
- temporary responsibility for staff leaving the unit for a short time
- anesthesiologist reporting to post-anesthesia recovery room nurse
- nursing and physician handoff from the emergency department to:
 - inpatient units
 - different hospitals
 - nursing homes and home health care
- critical laboratory and radiology results sent to physician offices.

Handoffs may also occur in behavioral health organizations that provide twenty-four hour care, treatment, or services. These handoffs can include teacher to child care worker, change-of-shift, or from clinical staff to program staff.

Implementation Expectations

Preparing for the implementation deadline of 1 January 2006, JCAHO has published expectations for the 2-E requirement based on human factors and health-services research, best practices in high-reliability organizations, and expert opinion in areas of teamwork and healthcare communication. Below are the JCAHO “attributes” of effective handoff communications: ¹



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- Handoffs are interactive communications allowing the opportunity for questioning between the giver and receiver of patient/client/resident information.
- Handoffs include up-to-date information regarding the patient's/client's/ resident's care, treatment and services, condition and any recent or anticipated changes.
- Interruptions during hand offs are limited to minimize the possibility that information would fail to be conveyed or would be forgotten.
- Handoffs require a process for verification of the received information, including repeat-back or readback, as appropriate.
- The receiver of the hand off information has an opportunity to review relevant patient/client/resident historical data, which may include previous care, treatment and services.



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Handoff Communications Tool

I PASS THE BATON

Transitions in health care occur millions of times every day, but they tend to be unstructured and incomplete. From review of sentinel events and root cause analyses, these handoffs have been identified as the source of significant medical error and tragic patient outcome. In reviewing existing tools and the critical elements required for transition of patient care, the “***I PASS THE BATON***” handoff tool was developed to cover the key areas for both simple and complex patient care handoffs. The tool is optimized for most healthcare handoffs and once understood, offers a foundation for clinical leaders to teach others on how to conduct a proper handoff. In an environment that is partially controlled and there is little risk for disruptions or interruption, this tool will be useful to promote a culture that encourages staff to clarify, question, confirm, and provide the opportunity to utilize established principles of team communication (verification and mutual support). This tool can remind clinicians of the key information and factors to include during their medical handoffs.



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I	Introduction	Introduce yourself and your role/job (include patient)
P	Patient	Name, identifiers, age, sex, location
A	Assessment	Presenting chief complaint, vital signs and symptoms and diagnosis
S	Situation	Current status/ circumstances, including code status, level of (un)certainity, recent changes, response to treatment
S	SAFETY Concerns	Critical lab values/reports, socio-economic factors, allergies, alerts (falls, isolation, etc.)
THE		
B	Background	Co-morbidities, previous episodes, current medications, family history
A	Actions	What actions were taken or are required AND provide brief rationale
T	Timing	Level of urgency and explicit timing, prioritization of actions
O	Ownership	Who is responsible(nurse/doctor/team) including patient/family responsibilities?
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I – Introduction: A formal introduction of the oncoming/off-going provider needs to be conducted. This ensures the continuum of patient care and allows the oncoming provider to ask questions if further clarification is needed after the handoff has taken place. Moreover, with a move toward patient-centered care, it is also important to involve the patient, to ensure that patients are aware of their care plan, and that they know who is treating them. Often, many hospital patients cannot remember the name of the nurse that is responsible for caring for them and do not know who to ask for if they need assistance. Therefore, it would be helpful for an oncoming nurse to introduce themselves to the patient before the nurse off-going nurse leaves his/her shift. Including this element is more crucial within the ambulatory care setting where patients are actively responsible for managing their own medical care. For example, if a patient is referred to a specialist for further evaluation, the specialist may need to contact the referring physician for the results of any prior lab tests or other studies that were conducted to fully comprehend the patient's condition and correctly diagnosis the patient.

P- Patient: It is important to make certain that the correct patient is identified during the handoff process. During this process, the patient's name, identifiers (medical record number, SSN, etc.), age, sex, and location (if appropriate) should be reviewed.

A- Assessment: Defining the patient's "problem" is of importance as well. The patient's presenting chief complaint, vital signs, symptoms, and diagnosis should be shared with the oncoming healthcare provider. Within a hospital setting, this information will provide a foundation for the oncoming nurse/physician to establish the normal parameters for the patient's condition and diagnosis (i.e., blood pressure, chest pain).

S – Situation: The current status of the patient's circumstances, level of (un)certainly, recent changes, response to treatment, including code status needs to be communicated with the oncoming staff. For example, the oncoming nurse may need to follow-up and assess if the 2mg of Morphine IVP just administered relieved the patient's pain or if further action is needed.

S- Safety Concerns: Any critical lab values/reports or studies, socio-economic factors, allergies, alerts (falls, isolation, etc.) must be presented during the handoff process. This information will indicate to the oncoming provider any triggers or potential hazards that may compromise the care delivered to the patient.

THE

B - Background: The patient's co-morbidities, previous episodes, current medications, and family history should be shared with the oncoming provider. These facts will allow the provider to determine a broader scope of the patient's needs and who should monitor the patient's condition. For example, if the patient is diabetic, lower calorie meals may need to be ordered for the patient.

A – Action: Prior actions or patient interventions with a brief rationale should be shared with the oncoming provider. For example, the patient underwent a cardiac catheterization via the left groin due to a recent heart attack. This will prompt the oncoming nurse to check for any bleeding or complications at the incision site in the left groin area.



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T- Timing: The level of urgency and explicit timing of interventions are factors that must be included during a formal handoff. This will allow the oncoming provider to prioritize their actions for caring for the patient. This can best be exemplified in a situation where a patient needs to be properly prepped for an upcoming procedure or test, such as a CT scan of the abdomen with contrast, in which the patient may need to drink a substance 30-60 minutes prior to the scheduled test.

O- Ownership: During the handoff process, the responsible healthcare provider/team and family members of the patient should be reviewed. This will give the oncoming providers the ability to contact the correct physician/nurse/team during a critical emergency or for any concerns that may arise. In addition, it allows the physician or nurse to consult and notify the patient's family members during an emergent situation.

N- Next: Next steps in the patient's care plan and/or any anticipated changes should be shared. If a patient is scheduled to be discharged from the hospital the next day, the oncoming provider could begin to educate the patient on any restrictions on their activity, scheduled follow-up visits, and prescribed medications. In addition, contingency plans should be shared answering the question "what if." If the patient's lab values are abnormal, is there a standing intervention already ordered. For example, if the potassium serum level is at a 3.1, is there a standing order to intervene and stabilize the patient's potassium level above 4.0?



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Case Based Example of Clinical Handoffs

Scenario 1: Doctor in the Emergency Department (ED) providing patient admission information to resident-attending team responsible for the next phase of care.

I	Introduction	The ED resident, Dr. Jones, introduces himself to the oncoming covering resident Dr. Smith. Dr. Jones explains that his 24-hour shift is about to end and would like to sign out a newly admitted to Dr. Smith.
P	Patient	Mrs. Green is a 34-year-old African American female, admitted from the ED to Ward 34, room 312 two hours ago.
A	Assessment	Presented to the ED in moderate distress unable to speak or walk more than 10-20 feet without stopping to catch her breath and complains of no other symptoms. Over the past 2 weeks she has noted fatigue, malaise, and decreased appetite. She has an irregular pulse of 120 beats/min, BP = 100/50 MM Hg, respiratory rate = 30/min, and a temperature = 99.2° F.
S	Situation	An arterial blood gas revealed a PO ₂ of 75, PCO ₂ of 20, with an O ₂ saturation of 95%. She was started on O ₂ via at NC at 4L/minute and the current pulse oximetry reading indicates 95% O ₂ saturation. Full hematologic, coagulation, and metabolic panels are pending in the laboratory, sent approximately one hour ago. A chest x-ray was ordered. She has full code status. Rheumatology and pulmonary service consults have been requested. She has one peripheral IV in her left hand with 5% dextrose running at 50 mL per hour. No medications have been dispensed.
S	Safety Concerns	The patient may have a lupus-induced pleuritis/serositis or developed a thrombotic complication with a pulmonary embolus due to the recent addition of a birth control patch to her list of current medications.
THE		
B	Background	NKDA. 3-year history of lupus with muscle aches and joint stiffness for the past 11 months. History of gastritis/GI bleeding due to high dose of steroids at the onset of her disease. Current medications include prednisone 5 mg qd over the past two months, ibuprofen 200 mg PRN, and recently a new birth control patch. She also takes an OTC vitamin, iron, and calcium 1 gram/day.
A	Actions	Consideration for anti-coagulation therapy takes a high priority, especially with the history of a past GI bleed and recent NSAID use. Need to also consider an increase in her steroid dosage for both stress and underlying disease indications.
T	Timing	Obtain another direct assessment of her current clinical status. Within the next hour, retrieve the laboratory results from the ordered tests, get an official reading of chest x-ray, and check the status of the pulmonary and rheumatology consults.
O	Ownership	Dr. Smith will review the case and contact the attending physician to discuss any of their concerns and coordinate the plan for the day.
N	Next	Dr. Smith will coordinate with the charge nurse on the frequency of vital signs and O ₂ saturation for the patient as well as specific parameters to contact the team. Nuclear medicine and radiology will be contacted to discuss the best approach to evaluating her pulmonary status. Order an ultrasound to examine her lower extremities for evidence of a clot. Dr. Smith will also call the ICU to check on the availability of a bed.



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Scenario 2: Transitioning through post-anesthesia care to an inpatient unit.

I	Introduction	Dr. Sleep, the staff anesthesiologist and Dr. Ortho, the staff orthopedic surgeon, call the ICU resident from the PACU to coordinate the transfer of their patient.
P	Patient	Mrs. Hip is 74 years old female is currently in the PACU and will be transferred to ICU Bed 8.
A	Assessment	Mrs. Hip underwent a complicated hip fracture fixation under spinal anesthesia. During her surgical procedure, she sustained an acute myocardial infarction and her BP was unstable.
S	Situation	She is a full resuscitation status. Currently, her BP= 104/70 and her heart rate = 120 beats/minute at sinus rhythm. A nitro-paste patch was applied and currently on beta-blocker. She has a mask of O2 at 4 L/minute. Her urine output is poor. Dr. Ortho states he suspects that her MI was probably induced due to low fluid volume and thus ordered 2 units of packed RBCs to be given. She has SCDs, a Foley, and a central line.
S	Safety Concerns	Dr. Sleep and Dr. Ortho conveyed to the ICU resident that they were worried about failure, arrhythmia, her tenuous fluid status, low hemoglobin, increased risk for falls due to slight dementia. Also DVT issues, pulmonary toilet, and avoidance of pressure injury.
THE		
B	Background	She had another heart attack two years ago. Mrs. Hip lives at home and cares for her husband with Alzheimers. She has mild COPD and used to smoke 1/2 pack/day but quit smoking 5 years ago. A copy of her current medication list will be faxed to you before she is transferred to the ICU.
A	Actions	The ICU resident will review her record, write the ICU admission orders, check the results of the laboratory tests and double-check her medications. Additionally, the ICU resident will monitor her vitals and intake/outputs closely.
T	Timing	Within the next few hours, lab tests will be drawn to ensure that Mrs. Knee's fluids and electrolyte are returning to normal levels.
O	Ownership	The ICU resident and team will take care of her medical issues. Dr. Ortho will manage Mrs. Knee's activity orders, physical therapy, wound issues, and hip X-rays. They will work together to resolve DVT prophylaxis and antibiotics needed to treat the patient. The family will be working with social worker for rehabilitation services later this week.
N	Next	The ICU resident must determine if Mrs. Knee had an acute MI and avoid any cardiac and pulmonary complications. Troubleshoot fluids and electrolytes. Dr. Ortho will work towards early, aggressive stabilization, up in bedside chair. Sequential compression will be ordered to prevent DVT prophylaxis. Early social work-family interactions on nursing home-rehab will be conducted. Plan of care and any follow-up issues will be discussed with the patient's family members.



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Scenario 3: Resident to weekend covering team

I	Introduction	Dr. Jones introduces himself to Dr. James, the oncoming OB/GYN resident for the weekend and reviews Mrs. Smith's current status.
P	Patient	Mrs. Smith is a 24y/o female Gravida 1, Para 0 at 38+4 weeks gestation by her last menstrual period and a 10 week ultrasound admitted this morning at 0400 to labor and delivery in active labor with spontaneous rupture of membranes and regular uterine contractions every 5 minutes and cervical dilation to 5cm. Currently, she is afebrile and normotensive with a pulse of 90 BPM.
A	Assessment	The estimated fetal weight is 3600 grams. The fetal heart rate tracing demonstrates a baseline of 140s with good variability and no decelerations. An intrauterine pressure catheter shows regular uterine contractions occurring every 3-4 minutes.
S	Situation	The patient has progressed in labor and her cervix was completely effaced and dilated to 8cm when she was last checked 2 hours ago. The fetal heart rate demonstrated some variable decelerations approximately 2 hours ago, but these responded to an amnioinfusion and the fetal heart rate tracing is reassuring as stated.
S	Safety Concerns	Be aware that there is another patient on the unit with the same last name. The patient is allergic to penicillin. Her spouse is currently deployed. She has her mother here in the room with her for support.
THE		
B	Background	The patient's past medical history is uncomplicated and she has had no prior surgeries. Her prenatal course has been uncomplicated except for testing positive for Group B streptococcus in the third trimester. She is receiving clindamycin for this because of her penicillin allergy and she has received two doses of this medication so far.
A	Actions	She needs to have her cervix rechecked at this time to determine if she is progressing in labor. If she has not progressed then oxytocin augmentation should be initiated.
T	Timing	She is scheduled to receive another dose of clindamycin at 2100 for her GBS prophylaxis. Pediatrics should be notified that the mother is GBS positive after delivery.
O	Ownership	Dr. James acknowledges and Nurse Leaf, will go and assess the patient and re-check the patient's cervix after the signing out process is complete.
N	Next	After delivery, Nurse Leaf will call pediatrics to let them know about the patient's GBS status. If the patient requires oxytocin augmentation and does not progress in labor, then she will need to be counseled for a cesarean section.



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Scenario 4: Nurse-to-nurse change of shift

I	Introduction	Nurse Jones is coming off the 12-hour day shift and introduces herself to Nurse Smith. Nurse Smith is the oncoming nurse from an outside agency and will care for Mr. Ramon on the night shift.
P	Patient	Mr. Ramon is in Bed 5 and is a 52 year-old male with medical record number 123-45-6789.
A	Assessment	He presented to the ED with complaint of 10/10 chest pain and shortness of breath this morning. BP = 165/80 and HR= 90 with frequent PVCs. EKG was conducted and cardiac enzymes were drawn in the ED. EKG and lab results revealed a positive myocardial infarction and patient was admitted to Bed 2 at 2pm this afternoon.
S	Situation	His BP = 120/60 and heart rate = 80 BPM. Patient is on O2 nasal canula with O2 saturation = 96%. Patient was started on Nitroglycerin 3mcg/min IV and Heparin IV at 1000U/hr. Vital signs have remained stable and patient has not complained of any chest pain or shortness of breath since IV drips were started. <i>Patient has a full code status.</i>
S	Safety Concerns	Cardiac enzymes are positive and have not peaked. Next set of cardiac enzymes are due at 2100 along with PT/PTT test to ensure that the correct amount of anti-coagulation therapy.
THE		
B	Background	The patient is diabetic, has a positive family history for heart disease, hypertension, and positive smoker. Patient currently takes medication for hypertension and high cholesterol.
A	Actions	Mr. Ramon is scheduled for a cardiac catheterization with possible stent placements at 0600 the next morning. To prepare for the procedure he must be NPO at midnight.
T	Timing	Nurse Smith acknowledges the laboratory tests that are scheduled for 2100 and will need to check the results of these tests within 1 hour after they are sent.
O	Ownership	Dr. Frank is the cardiologist that will be performing the cardiac catheterization procedure in the morning and is on-call if you need his assistance tonight. Also, our charge nurse will be happy to assist you if you need anything or have any concerns. Mr. Ramon's family has been very supportive and is currently at the bedside visiting with him. They plan to come early tomorrow morning to see him before his procedure.
N	Next	Nurse Smith will educate Mr. Ramon on the cardiac catheterization procedure and discuss their expectations of the patient after the procedure (i.e., bed rest, liquid diet). Nurse Smith will encourage Mr. Ramon to consider enrolling in a smoking cessation program after discharge.



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Scenario 5: Discharge Summary information from hospital care to primary care provider.

I	Introduction	Good morning Mrs. Jones, and Lucy, my name is Betsy. I am a registered nurse here on 3N. I am making the arrangements for your discharge from the hospital and for the next few minutes I am going to give you instructions for going home. Mrs. Jones, I understand that you are going to stay with your daughter Lucy.
P	Patient	Mrs. Jones, you were a pretty sick lady a week ago when you were admitted to Community hospital from Dr. Care's office with the flu.
A	Assessment	Your flu was complicated by dehydration and pneumonia. You required oxygen, lots of fluids, and intravenous antibiotics.
S	Situation	You tolerated treatments well. Since yesterday you have been drinking fluids on your own, you no longer need oxygen, and you are keeping your antibiotic medicines down without problems.
S	Safety Concerns	This morning you felt dizzy when you quickly stood up to go to the bathroom. Dr. Smith feels this is related to your being de-conditioned. That means that you have been in bed for the last week and your body is a little slow in making quick adjustments when you change positions. If you get up too fast, you could fall.
THE		
B	Background	You have a history of high blood pressure, but during this hospital stay we have also noticed that your blood pressure has been low for you; our measures have been 100/60 most of the time.
A	Actions	This has led our Dr. Smith to hold your high blood pressure medicine while you have been here. After checking you this morning he also suggested that you sit along the bed with your legs dangling for at least 3 minutes before you stand up. Dr. Smith wants you to stop taking your blood pressure medicine until after you have a chance to see Dr. Care in 2 weeks.
T	Timing	Between now and your follow-up visit with Dr. Care, which we have scheduled for Monday November 14 at 10 am, your job is to continue to drink lots of fluids. You should try to take in at least 3 big glasses of water, juice, or other drinks (without caffeine) every day. You will be given erythromycin to take by mouth for the next 7 days. Make sure you take this medicine three times a day with food and do not stop it early. You need to take all the medicine to cure your pneumonia. Every day you should take a short walk. Be sure to follow Dr. Smith's directions and take your time getting up from bed. You should not take your blood pressure medicines until Dr. Care tells you to restart them.
O	Ownership	Your daughter will be taking care of you at her house. If you have any problems during your recovery, it is very important for you to call Dr. Care. Dr. Smith called Dr. Care this morning and he has updated him on your progress while here at Community Hospital and the changes we suggested in your medications.
N	Next	It is normal for you to feel tired for up to one month. In a few days, as you begin to move around more, you should start to notice less dizziness when you stand up. If you get short of breath, have fevers, difficulty taking your antibiotics, start to have diarrhea, or can't drink enough fluids, you should call Dr. Care's office right away. These symptoms might be a sign that the antibiotics you are taking are not working or that you are having side effects. The discharge paperwork has these instructions, your follow-up appointment information, and Dr. Care's emergency number written on it. Let's make sure that all these instructions make sense. Do you have any questions?



Research in the Healthcare Industry

Handoff Communications

High-reliability organizations, such as the nuclear power industry, aviation cockpits and air traffic control, Navy carrier flight decks, and NASA and Mission Control have developed, studied, and formalized effective methods for safe transitions in operations. These approaches have included effective team communication tools and strategies that have become a part of their organizational cultures. These methods are based on a deep knowledge of human factors and engineering design for safety. High-reliability organizations acknowledge human fallibility, system complexity, ambiguity and uncertainty, limitations of individuals in learning, training, and attention, continuity gaps, negative impact of fatigue on human performance, dynamic conditions, difficult decision making under time constraints, and numerous system vulnerabilities. Fortunately, the healthcare industry is beginning to recognize the origins of medical errors within the healthcare delivery system. Healthcare organizations are now integrating successful lessons from these high-reliability institutions to design safer systems for patients. The JCAHO requirement to implement a standardized approach to 'handoff' communications, and transitions in health care creates an unrivaled opportunity to improve healthcare quality and safety. The information transfer problem has plagued patient care for decades. Using these tools will make it possible to dramatically improve the transfer of information.

In health care, there do not appear to be significant differences among the terms. Handoff and handover are terms that suggest the transfer of information/knowledge along with authority and responsibility among care providers. Sign-over, sign-off, sign-out, and check-out rounds relate to clinicians transferring care to a covering physician or team for on-call responsibility. Nursing change-of-shift, shift change, change-over and "giving report" focus more on the exchange of patient information (and responsibility) at the end of a given time period/shift and beginning of the next. Briefings or huddles suggest a method of bringing another like-practitioner or team together to obtain a clear picture of the current status and plan before/after a transient absence (relief for lunch or a break), during momentary cross-covering while one professional is focused on another task, or at the beginning of a procedure or event. Narrative, discharge, or procedure summaries record the necessary information about a hospitalization, operation, or procedure in sufficient detail (and according to required templates) for another practitioner to be able to "take over the case" or continue the appropriate care. Reframing a discharge summary as a transfer summary is an opportunity to clarify the plan, expectations, next steps, and contingencies for another provider.

Transition Methods

A number of publications and studies have focused on effective transfer of information, authority, and responsibility at shift change in industries, where services or operations are carried out round-the-clock. An excellent summary of the literature, with conclusions, was authored in 1996 as a technical report, *Effective Shift Handover*. A basis for



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guidance in the handover process and suggestions for lessons learned and best practices were offered, with recognition that the research is imperfect and that some inferences are drawn from other known industrial incidents. The following represents general guidance from this technical report for conducting an effective shift handover, which should: ²

- Be conducted face-to-face;
- Be two-way, with both participants taking joint responsibility for ensuring accurate communication;
- Use verbal and written means of communication;
- Be given as much time as necessary to ensure accurate communication.

Note: In addition to those listed above, a handover should be based on a pre-determined analysis of the information (key elements) needs of the oncoming staff.

The report suggests that communication skills should be part of the employee selection and development process within organizations. There is an opportunity to better refine the specific data elements that should be included in the information exchange and to better design the information support systems (log, templates, computer-IT systems) to aid the handovers.

Analysis of industrial incidents focused on areas of increased risk and poor outcome, including:

- During plant maintenance, particularly when this work continues over shift change. Thorough communication of such work should be afforded a very high priority (due to confusion about the details of work performed or not performed).
- When safety systems have been over-ridden.
- During deviations from normal working (procedures).
- Following a lengthy absence from work (takes more time to get into gear).
- When handovers are between experienced and inexperienced staff.

Some observations about communication, human factors considerations, and implications for handoffs include:

- Two-way communication with feedback/questioning is essential.
- Natural language is naturally ambiguous.
- Miscommunication and misunderstanding are most likely in the face of widely differing mental models held by oncoming and outgoing personnel.
- The capacity of communication channels is limited; therefore, unnecessary information should be eliminated.
- Over-confidence and complacency are common and should be countered by setting standards of communication and developing individual and organizational communication skills.

The Australian Council for Safety and Quality in Health Care produced an excellent evidence-based analysis: Clinical Handover and Patient Safety—Literature Review Report in March 2005.³ This report substantiated and referenced the harm produced by ineffective handoffs and medical transitions, stating that ineffective handover can lead to:



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1. Wrong treatment
2. Delays in medical diagnosis
3. Life-threatening adverse events
4. Patient complaints
5. Increased health care expenditure
6. Increased hospital length of stay
7. "...and a range of other effects that impact on the healthcare system"
(including litigation)³

The literature, unfortunately, did not identify specific best practices for handoffs; however, it did deem handoffs an area ripe for future quality research. The committee did categorize the analysis of the scientific studies into system factors, organizational cultural factors, and individual factors, with statements, opinions, and conclusions presented in the following table.

Table 1: System, Organizational/Cultural, and Individual Factors

System Factors	Organizational/Cultural Factors	Individual Factors
<ul style="list-style-type: none"> • Multidisciplinary decision-making on rounds reduced medical error. • Continuity providers were more accurate and safer than on-call team providers. • Staffing levels may affect quality of handoffs. • Research should be designed to evaluate and measure clinical handovers relative to patient quality and safety. 	<ul style="list-style-type: none"> • Communication consists of four elements: <ul style="list-style-type: none"> ○ sender ○ message ○ receiver ○ feedback • Organizational attitudes and behavioral norms affect teamwork. • Hiring practices should include communication skills. • Processes should be determined for structured minimum level of information required for handoff. • Verbal AND written information should be used for handoffs. • A continuous improvement model, with empowerment culture will drive innovations with care transition improvements. • Systems should be in place to provide accurate information when cross-covering teams are providing emergency care. 	<ul style="list-style-type: none"> • Competent practitioners should be recruited. • Organizations should promote training and learning for staff members. • Minimum information sets should be determined and staff members should be held accountable for following clear protocols. • Training should be provided to increase individual skill level for handoff communication. • Clinician knowledge deficits should be corrected.



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Transitions in Care in Practice

Emily Patterson and co-authors⁴ identified and described strategies employed during handoffs in four settings with high consequences for failure. They concluded that these principles, tools, and strategies could be applied in healthcare operations and “jumpstart” endeavors to modify/design handoffs to improve patient safety. The primary areas for observational studies included space shuttle mission control, nuclear power, railroad dispatching, and ambulance dispatching. Of interest, the handoff was seen as both a point of vulnerability and a potential time of recovery and error detection (fresh set of eyes). Analysis of twenty one handoff coordination and communication strategies revealed similarities and differences compared to healthcare settings, which did not have updated “see-at-a-glance” information systems and depended on indirect or delayed communication systems, such as pagers, recorders, phones, faxes, and hand-written notes rather than immediate links. The wide variability of handoffs across healthcare systems

creates further challenges not seen in the industrial settings. Problem areas identified by the authors for health care included timing-schedules, limited information technology system support, indistinct responsibility transfers, and the potential tradeoff between effectiveness and efficiency.

Handoff
Point of vulnerability
---AND---
Opportunity for error
detection and recovery

The table below lists Handoff Coordination and Communication Strategies (from Patterson):

Table 2: Handoff Coordination and Communication Strategies

Some observed handoff strategies used to enhance *effectiveness* include:

- Face-to-face verbal updates with interactive questioning
- Limiting any interruptions during update
- Additional updated information from teammates (other than one being replaced)
- Topics initiated by oncoming as well as outgoing
- Limit initiation of operator actions during update (wait until after handoff)
- “Readback” to ensure that information was accurately received
- Include outgoing team’s stance/opinion toward (oncoming’s) changes to plans and contingency plans

Strategies to improve handoff update efficiency and effectiveness include:

- Outgoing writes summary before handoff
- Oncoming assesses current status
- Update information in the same order every time
- Oncoming scans historical data before update
- Oncoming reviews data changes from automated, sensor-derived system prior to handoff/update

Suggestions for improving coordination with others:

- Unambiguous transfer of responsibility
- Make it clear AT-A-GLANCE which personnel are responsible for which duties at a particular time
- Delay transfer of responsibility when concerned about status/stability of the process⁴



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Emergency Departments

Several studies focused on emergency department (ED) operations.⁵ Observations in five EDs in North America included transitions during shift changes for doctors and nurses, but also involved handoffs between emergency medical technicians (EMTs) and ED staff and from ED staff to inpatient services.⁵ As expected, there was marked variability in handoffs across settings and circumstances, but there were some similarities:

1. Handoffs were always interactive, with the oncoming actively eliciting information, asking for clarification, seeking clarification, and identifying omissions or inconsistencies. The shared mental model was a “joint construction”, with contributions involving both parties in the handoff.
2. Specific exchanges included updates on individual patients, but also global information about resources, support services, and ED functionality.
3. Patients were covered in a standard order to avoid omissions, often bed-by-bed.
4. Discussions were usually initiated and terminated by the oncoming provider.
5. Handoffs expanded and contracted based on time, volume, urgency, confidence, experience, and credibility
6. Physicians and nurses almost never did handovers together or as a team
7. Handover “genres” were identifiable depending on the amount of effort and interaction required by the oncoming provider and by the amount of certainty-uncertainty. If minimal interaction would be required, a patient might be presented as “all wrapped up and tied with a bow.” Some patients, usually newly arrived or complex, would require substantial doctor and/or nurse involvement, and therefore a more complex handoff; a “work in progress.”

Richard Cook:
**“Goal of medical
handoff is
optimization”**

Observations of use in the Emergency Department of Patterson’s handover strategies identified eight that were consistently used, four occasionally, and nine essentially never used. Behara cites Richard Cook, who has suggested that the “goal of handover is optimization...” providing sufficient information and enough of the relevant picture so the oncoming caregiver can “spin up to operational speed quickly,

should the need arise.”⁴ The marked variability, complexity, and multidimensional nature of handoffs in the ED cause the authors to be less optimistic about the ability of technology systems to solve the accuracy and effectiveness problems in that setting, although there clearly is an assistive role.

Beach, in an ED case analysis identifies the need for staff to be fully cognizant of errors produced during ED care transitions and for in-depth study of these transitions to occur.⁶ He proposes encouraging a culture that promotes quality communication and joint accountability through teamwork and leadership training. He further suggests that supportive information technology systems are necessary to support team situational awareness and to alert clinicians about critical laboratory data and imaging reports.



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Intensive Care

Shepherd did field work in four neonatal intensive care units in the United Kingdom and described observations and opinions about teamwork, communication and shift handover, roles of nurses and doctors, and processes of care.⁷ He stated the challenge succinctly, that it “...revealed a complex working environment in which different people, with different expertise and responsibilities, and working across different shifts, must collaborate in order to maintain the care and treatment of babies at extreme risk.”⁷ They emphasized the “complex interdependency....especially from the perspective of sharing information.” On the list of observations of ineffective actions and problems were (1) handovers from memory, (2) poor documentation, (3) peak of errors right after shift change, (4) misperceptions and erroneous inferences, (5) ambiguity regarding language, (6) continuing of wrong practices after shift change, (7) loss of verbal information, (8) fragmentation of care (doctor and nurse records were separate), (9) difficulty in judging which information was important, and (10) failure of doctors to reliably share their rationale for decisions about care, leading to nurses and doctors (house staff) at cross-purposes.

Their conclusions and recommendations included redesign of information systems and record documentation—to eliminate separate doctor and nurse charting systems, and to institute effective training of personnel for shift handovers. The authors strongly identified opportunities for better teamwork, communication, redefining improved team care roles for doctors and nurses and importantly, for medical staff to be able to convey the care plans and rationale to the staff responsible for carrying out the required tasks.

Piotrowski and Hinshaw describe a Safety Checklist Program for the ICU, in response to a sentinel event.⁷ They utilized the time-tested method for complex environments with need for integrated tasks and team collaboration, similar to the take-off or landing checklist in aviation. They used collaborative group process and partnering to develop the areas of focus, agree on the systems and methods and to gain “buy-in.” They encouraged a culture of safety, sought powerful leadership support, and used a continuous improvement model to solve problems. There certainly is an opportunity to create checklists that will assist in handoffs of complex patients in the ICU, where at least 20% of patients were shown to have adverse events in a study published in the August 2005 *Critical Care Medicine*.⁹ Importantly, the authors concluded that 45% of the errors were preventable using improved information technology and better physician-nurse communication.

Operating Room

The **preoperative brief** is a powerful tool to “bring the entire OR team onto the same page” (shared mental model); remove incorrect assumptions; clarify the intended plan and contingency plans; obtain key information from surgeons, anesthesia provider, circulating nurse and surgical technologist or scrub nurse that enhance patient care safety and quality; and develop counter-strategies to common pitfalls, errors, and complications.

This sharing of information, opening the door to multidisciplinary communication, and working together (mutual support) creates and sustains a teamwork approach that values



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input from all team members. Such an environment sets the stage for improved communications, including handoffs between anesthesia providers for breaks or shift change and handoffs between circulating nurses or scrub technicians as they move in and out of on-going cases. These **handoff briefs** offer the continuity needed to maintain awareness of the original preoperative brief and of updated information, changed by the dynamic nature of surgical cases. Many root cause analyses of sentinel events have pointed to the need for being less hierarchical in the operating room setting, improving the sharing of information, using better team decision making, and improving the handoffs along the care continuum from pre-op, through surgery, to the post-anesthesia care unit and through inpatient or home care. Using structured briefs, supportive information technology systems and improved continuity documentation, there is a striking opportunity to improve the quality and safety of patient care. The spectrum of communication tools available to improve care in the operating room includes pre-op and handoff briefs, closed loop communication check-backs and read-backs, call-out of important information necessary for team situational awareness, and feedback for team performance improvement.

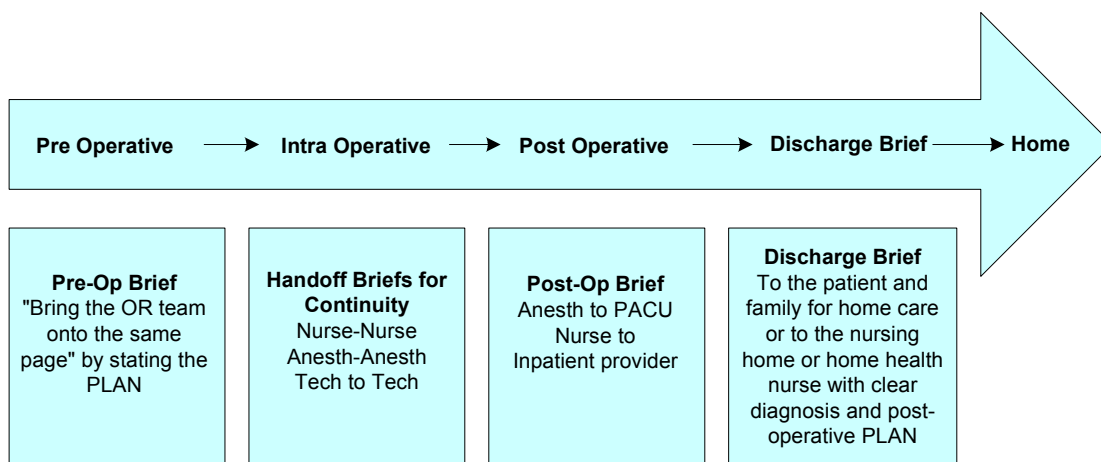


Figure 1: Handoff Example: Operating Room through Discharge Home...Maintaining Continuity

Information Technology

Over time, with advances in the Electronic Medical Record (EMR), potential agreement in developing a Continuity of Care Record (CCR) and with focused research on the processes of transitions in care, computer-assisted handoffs will be a reality. It is possible to identify, for given work units (microsystems), what data elements are necessary to improve the quality and safety of patient handoffs. It will be further possible to populate these data fields from computer programs having accurate, updated and appropriate information elements sufficient to support handoffs across the continuum of care. Work has been done in the United Kingdom using a prototype "clinical handover appliance" to meet the clinical requirements of doctor-to-doctor handoff at shift change and for clinical coverage.⁹ The goals were to make the process more accurate, write an action plan and to-do list, improve documentation, and decrease physician time required in preparing and completing handoffs. Some of the goals were met with a relatively low-tech display



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system. An important by-product of the project was establishing a physician handoff routine and meeting time.

Van Eaton reports his experience with a randomized trial evaluating the impact of a computerized rounding and sign-out system at the University of Washington.¹⁰ Conclusions from this study suggested that fewer patients were “missed” on rounds and that the resident-reported quality of sign-out and continuity of care were improved. In addition, the system decreased (by 1.5 to 3 hours per week) the time used by residents to complete rounds and pre-round data gathering. The authors observed that such a system aids in meeting the 80-hour work-week restrictions directed by the Accreditation Council for Graduate Medical Education.

Many healthcare systems have developed and are testing information technology support systems for nursing shift change, including Kaiser Permanente and University of Michigan. Information support systems, both hardware and software, if properly designed and tested could be extremely beneficial in handoffs and continuity of care.

Existing Handoff Tools

There is no doubt that handoffs must be improved, based on the harm that has occurred with poor handoffs. The urgency created by JCAHO’s deadline for instituting structured transitions by the first of January 2006 and the remarkable opportunity to design handoffs, are founded on principles of patient care, quality, and safety plus utilizing human factors and HRO lessons-learned. There is not sufficient scientific evidence to dictate what methods should be used. However, it is clear from HRO best practices, process studies in health care, human factors principles, and expert opinion that thoughtful handoffs should have structure, reminders of key information, conducive environments, and value-added information technology support.

Key Forces Driving Handoff Changes

- **Patient Harm**
- **JCAHO timeline**
- ***Opportunity to design handoffs based on quality and safety principles***

If the system is overly simplified, information transfer is still vulnerable to distraction and loss---from failure to consider to misinterpretation. If the system is overly complex, unwieldy, and inefficient, front-line users will refuse to adopt the handoff tools or develop shortcuts, which fail to address the needed accuracy and structure intended to improve information transfer. Richard Cook’s challenge for handoff optimization leads to

seeking a system that stimulates the individuals and teams engaged in a handoff brief to remember key elements and identify important data that is frequently neglected or forgotten.

A balanced template for handoffs across the continuum of care should be based on human factors knowledge, an understanding of medical errors commonly seen during healthcare transitions, the realities of the complex processes of care, JCAHO mandates, and the potential tradeoffs between effectiveness and efficiency.



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From this literature review, two options were noted for increasing structure, standardization, and accuracy for handoffs and healthcare transitions include the I-SBAR (Expanded SBAR) and the Five-Ps.

I-SBAR

The I-SBAR is based on naval nuclear training adapted by the Human Factors Group at Kaiser-Permanente, Northern California, with particular focus on telephonic Nurse-Doctor communication and as a counter-strategy to historically (potentially) dysfunctional communication, which was often the source of misunderstanding, poor decision-making, and medical error. It appears less useful as the basis for a structured handoff, which represents a different communication problem. Yet, the I-SBAR might be adapted to the specific information transfer needs in some settings. However, it may be better to specifically design a system, data set, and structure for the goal of improving handoffs in healthcare transitions. The I-SBAR is currently being tested in several hospitals as a format for structured handoffs.

Dr. Michael Leonard, Director, Patient Safety and Mark Monroe, RN, Project Manager, National Environmental, Health and Safety and colleagues at Kaiser-Permanente developed the expanded I-SBAR shown below:

I	Introductions	<ul style="list-style-type: none"> • Identify yourself and your level of certification/licensure. • Identify the patient's name, age, and sex.
S	Situation	<ul style="list-style-type: none"> • Chief complaint/working diagnosis. • Goals: A concise statement of the top 2-3 medical problems/items to be resolved on the table (What are the 3 things Ms. Jones needs addressed to get better and go home?) • Alignment: A statement of the patient's needs and wants as currently understood.
B	Background	<ul style="list-style-type: none"> • Vital signs including mental status – pertinent findings. • Quick summary of other pertinent issues. • The care you have provided and the patient's response to your care.
A	Assessment	<ul style="list-style-type: none"> • Recap of the top two or three issues/goals from the last shift. • What's pending – what's ruled out /in. • An invitation to develop a more accurate theory of situation and plan of care is made: "What Have I Missed? Any questions?"
R	Recommendations	<ul style="list-style-type: none"> • Pending lab, consults, and clinical test results (and their implications). • Critical orders- what needs to be done in the next two hours. • Draw the box – establish parameters of when and how a physician or other provider needs to be contacted - and establish who that is. • Engage the patient in teach back (to establish goal alignment): "Mrs. Jones, after listening to us, if you had to explain to your family what our plan for your care is for this next shift, what top two or three things would you tell them."



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Five-Ps

The Five-Ps of handoffs was developed by Gary Yates and Shannon Sayles of Sentara Health Care in Virginia (2004) within a culture emphasizing attention to detail, having a questioning attitude (to verify and validate), using peer checking and coaching (as appropriate) and using the Five Ps to hand off effectively.... There is an opportunity for an *expanded* version, with sub-groups under each of the five Ps.

- ☐ **Patient**
- ☐ **Plan**
- ☐ **Purpose**
- ☐ **Problems**
- ☐ **Precautions**
- ☐ **Physician assigned to coordinate (Captain of the ship)**

Within given microsystems and across the healthcare system at large, the principles and tools described above could be integrated into work processes and assist providers in improving handoffs during transitions in health care. Guided by physician and nurse clinical leaders, who are dedicated to process improvement, the tools and principles could be adapted to the needs of given work units and facilities. Knowing there is insufficient evidence today to promote a short-term best practice, these tools should be seen as starting points, similar to many healthcare initiatives, where feedback, redesign, health services research, gathering of evidence, and sharing best practices become the method for continuous improvement. Deeming current handoffs insufficient and recognizing the potential continued harm from suboptimal care transitions, it is necessary and morally appropriate to engage in the process of improving handoffs on behalf of patients, and with the goal of improving quality and safety across the continuum of care.



Conclusion: Handoff Data Triangle

The Handoff Data Triangle provides an illustrated matrix for the key critical elements involved in patient handoffs. Based on handoff literature, it is specifically designed to assist healthcare providers in reviewing all important areas that may compromise a patient's plan of care in a rational, intuitive, and prioritized manner. For simple handoffs, many of the data elements might not apply and could be de-emphasized. For increasingly complex patients, including each element would help avoid an error or omission and help avoid the human tendency to forget a critical data point for complex decision making. It could be available as a reminder during shift change, on the wall or clipboard, and could be a foundation for patient-oriented notes generated in preparation for a handoff brief. The matrix could potentially serve as the foundation for building an information technology (IT) solution to support handoffs.

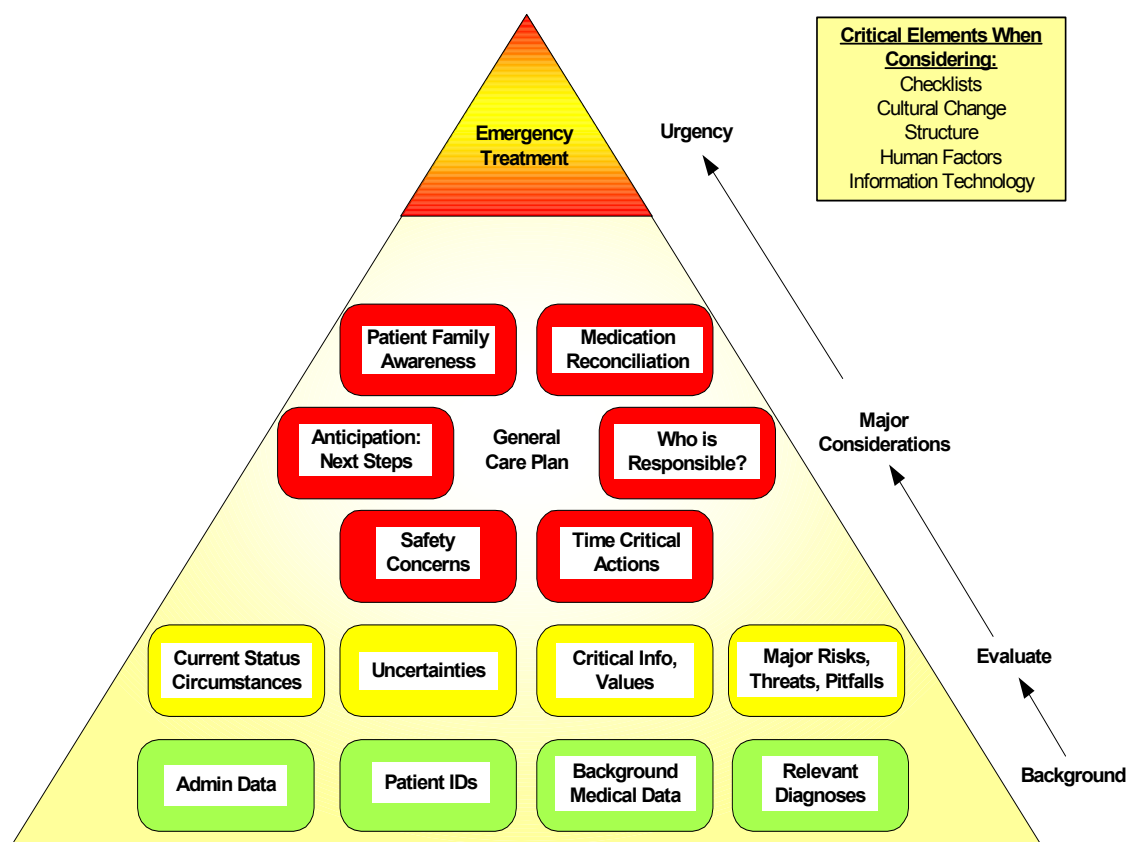


Figure 2: Handoff Data Triangle



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Figure 3: The Handoff Data Triangle Model



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During a handoff, it is important to create a clear picture or shared mental model of the patient's condition and circumstances. Central to this matrix is the general care plan and is supported by basic background information: administrative data, patient identification, background medical data, and relevant diagnoses.

Clinical providers usually focus on the current status of the patient. However, there needs to be a focus on other key elements that often are neglected during transitions in care. The degree of certainty or uncertainty about the patient's condition, pending lab values, studies, and consultations need to be addressed as well. Sometimes critical lab values (e.g. low serum potassium or very low hemoglobin) or critical studies (e.g. new diagnosis of pulmonary Tuberculosis or high suspicion of CT/MRI for previously undiagnosed cancer) are not recognized or acted upon because the information was not passed on during transitions in care. Stating any major risks, pitfalls, threats, or known complications helps the oncoming responsible provider focus on prevention or early treatment strategies.

Safety concerns, time critical actions, and anticipated next steps are elements of handoffs that provide an opportunity to ask any questions, express concerns, and confirm prioritized actions within the patient's general care plan. By including these factors within the handoff process, goals and expectations are established. It clarifies the sequence of care services needed and triggers any contingency plans that need be addressed. An explicit plan of care helps to avoid false assumptions and negates any differences in knowledge or expertise levels amongst all healthcare providers. Additionally, documented root cause analyses revealed that no one knew who was in charge of the patient's care plan. It was not known which doctor, nurse, or team was responsible for actions, decisions, and communicating with the patient.

Stating or ensuring that the patient and family are informed and the degree to which they are participating or planning to be involved in decision making, ongoing care, etc. is another area which tends to be forgotten during handoffs. Another major communication and system problem within the continuum of care is medication reconciliation. This requires information technology solutions, cultural change, system improvements, and multi-disciplinary integrated communication and updating of medications, doses, routes of administration, schedules and monitoring and adjusting related to side effects, complications and adverse drug interactions.

At the peak of the Handoff Data Triangle is the element of emergency treatment. This element is the highest priority and includes actions that might proceed without some important information being handed off. In reality, the flow and process of patient care will occasionally require that emergency actions be taken before the rest of a formal or complete handoff can be reasonably undertaken. Regardless, it is clear that having a more complete picture (by covering the other elements of the handoff) will allow the delivery of safer quality care.



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Recommendations

Patient care quality and safety can be improved during handoffs when physician, nurse and clinical champions join leadership in making improved handoffs a system priority, including needed procedural and cultural changes. Handoffs must be redesigned based on best practices and human factors research using successful communication techniques and strategies, to include: limited interruptions, interactive, opportunities to question and clarify, and verify information with check-backs and read-backs. Use of ambiguous language should be restricted and medical jargon, confusing terms, and unacceptable abbreviations should be avoided.

The transfer of information should be structured, using assistive mnemonics, templates and/or checklists to decrease the likelihood of lost information and increase the accuracy and safety of the handoff. Responsibility, accountability, and authority must be explicitly transferred and included during handoffs. Handoffs must be structured to include the opportunity for the oncoming care provider(s) to review relevant patient/client/resident historical data, which may include previous care, treatment, services, reports, and recommendations.

1. It is imperative that handoffs and transitions in health care be improved.¹¹ Reasons include patient harm, sentinel events based on communication error (70%), JCAHO mandate (2006 National Patient Safety Goal 2-E, with expectations), and opportunity for redesign of handoffs based on HROs and human factors research.

Recommendation One:

Leadership should respond to the JCAHO mandate to improve handoffs by initiating a program within each facility, setting the priority, and identifying the timeline.

2. The handoff must be '*structured*' (standardized by JCAHO terminology) and include an opportunity to ask and respond to questions (i.e., be interactive). It may be that clinicians or facilities could modify/expand the "Five Ps of Handoff" or the I-SBAR to become useful tools that are sufficiently robust to cover the important data elements for handoffs. There are opportunities to create new and better systems in the future. The requirement is for a standardized handoff, primarily verbal, but by human factors research it is better if there is a written component in addition which could relate to notes, PDA, or computer entries. There is an opportunity to develop checklists and templates for certain work units, microsystems, or patient types, which could serve to improve documentation of care and continuity.

Recommendation Two:

*Consider use of the "**I PASS THE BATON**" mnemonic that was developed to guide medical handoffs and optimize information transfer. "**I PASS THE BATON**" may be the best option in most clinical settings (standardized handoff for JCAHO) and is therefore recommended for use in most facilities.*



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3. The concept of handoff as a transition in care is very *broadly interpreted* to include patient care handoffs of all types between care providers/teams; between institutions; along the continuum of care; including healthcare information and data; involving discharges, transfers, consultations; and certainly including transitions to the patient/family as it relates to information and responsibility.

Recommendation Three:

When implementing training and process changes, use a broad definition for handoffs, to include most care transitions and information handling across the continuum of care.

4. Handoffs should include *up-to-date information* regarding the patient's/client's/resident's care, treatment and services, condition, and any recent or anticipated changes. In the long term, there is an excellent opportunity to design information technology systems to support handoffs and transitions in care, including electronic medical records, continuity of care records, and various integrated summary-of-care documents.

Recommendation Four:

*Utilize a system, checklist, template, or mnemonic that includes updated information, recent changes in condition or circumstances, and any anticipated changes or aspects of care that need to be observed or watched closely. "I **PASS** THE **BATON**" offers reminders to include current information and anticipated changes.*

5. Interruptions during handoffs *should be limited* by designing the handoff process to include some control over the environment and timing (as much as the microsystem allows). The rationale is to minimize the possibility that key information would not be transferred or would be forgotten or misinterpreted by the oncoming provider.

Recommendation Five:

Redesign the handoff and shift change processes to protect against unnecessary interruptions and allocate sufficient time to the process.

6. Handoff communication requires a process for verification of the received information, including repeat-back or read-back, as appropriate. Accuracy demands and human factors research demonstrate that critical information should be repeated (or read-back) to avoid error, confusion, and misunderstanding.

Recommendation Six:

Teach and use methods of teamwork communication, such as is taught in TEAMSTEPS, which verify information transfer with closed-loop communication tools, including check-back, read-back, call-out, etc., for transferring important information, such as critical actions, medication doses, and urgent actions.



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7. The receiver of the handoff information should have an *opportunity to review relevant patient/client/resident historical data*, which may include previous care, treatment, and services, usually most available in the medical chart, but possibly augmented by supporting documents, such as the medication administration record (MAR), consultations, operation reports, and imaging and laboratory reports. The rationale is that some sentinel events have occurred due to unclear transfer of responsibility.

Recommendation Seven:

To meet this requirement, charts, written information, and reports/results should be available for review (as appropriate) by the oncoming provider(s).

8. Along with the transfer of information, handoffs should include a clear transfer of responsibility, including who is responsible during the handoff period and personnel knowing who is in charge of decision making.

Recommendation Eight:

While developing handoff policies and protocols, include a clear statement of how and when responsibility is transferred during healthcare transitions.

9. Use *clear language*: avoid confusing abbreviations and jargon that may mislead the oncoming care provider during handoff. The rationale is that often jargon is not precise, and during RCAs for sentinel events, confusion has occurred and patient outcome suboptimal due to confusion in communication. Examples include, she's "a little unstable," "somewhat lethargic," and "exaggerating her pain."¹¹

Recommendation Nine:

Teach and practice communication using clear terminology during handoffs.

Healthcare organizations must also consider short term and long term opportunities for incorporating information technology systems to support the handoff process, as part of an electronic medical record. Such advances would significantly increase the effectiveness and efficiency of handoffs during transitions in care. Handoff improvements should be framed as an ongoing opportunity supported by future research, eventual clarification of the impact of tools and strategies on patient outcome, and identification of best practices, which are then shared across the healthcare system.



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Healthcare Transitions and HANDOFFS



Appendix A: Multi-Audience Brief

Matrix of Slides

The Handoff Toolkit contains a PowerPoint presentation (which follows this table) that may be modified and used to target specific audiences, which have different needs. This table offers *suggestions* that may help in creating an action and implementation plan.


Audience Types	The Presentation (show)				Handout Options	Comments
	Time-Show	Time Questions	SHOW Slides	HIDE Slides		
I. Executive audience very senior leadership	10 min	5-10	1,4,5,7,8 19,28,29,31 (show more if desired)	The rest	1. FAQ-Handoff Summary document	For oversight, regulatory requirements, background information and frame-of-reference. Vision and prioritization.
II. Leadership champions Clinical champions Educators, Faculty Patient Safety personnel Quality and CI Staff Residency Directors Innovators, designers I.T. system engineers Marketing implementers	40-50 minutes	10-15	Full Presentation	Could hide some research slides (would show to ED folks)	1. Full TOOLKIT document 2. Slides with notes 3. FAQ-Summary 4. Bibliography and Resource packet for experts and designers	The ACTION TEAM Needs deep knowledge, ability to adapt, envision change across units and the facility. Specialty opportunity to modify, develop, improve, seek-give feedback for process improvement
III. Clinically active personnel Staff Nurses Staff Physicians Staff Providers Residents Students Ancillary personnel Technologists	20-30 minutes	10	1,3,4,5,7,8,9 11, 13, 14,15,16,17 23, 24, 25,26,27 28 29*** 30	2,6,10, 12,18,19 20,21,22	1. Color copy of “ I PASS THE BATON ” information sheet 2. Color copy of the handoff data triangle (for areas where it might be used)	Will need to have practical and hands-on sessions. **PRACTICE** Will likely develop checklists and use memory aids. May want several training exposures. Process improvement feedback.
IV. Other audiences ??						Your targeted audience....




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“I PASS THE BATON” Slide Show



Department of Defense
PATIENT SAFETY PROGRAM



“Handoffs”
**Clarifying Communication and
Improving Patient Safety
Across Transitions In Care**

**Health Care Team Coordination
Program**

1

Slide 1

Recent advances in team communication have created an excellent opportunity to improve quality and safety in health care across America by using more accurate and structured methods of transferring information during handoffs and transitions in patient care.



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Goals: Handoff Improvement

- Understand the medical error problem with handoffs
- Clarify JCAHO National Patient Safety Goal 2E
- Provide value-added resources and plans
- Assist MTFs in implementing required JCAHO standards (and expectations) by 1 Jan 2006
- Explain human factors and best practices on which JCAHO expectations are founded
- Explain the Handoff TOOLKIT
- Recommendations, opportunities for improved handoffs in healthcare

2

Slide 2

These are the GOALS of this presentation regarding the general topic of handoffs and the DoD Toolkit and Handoff Initiative being offered to facilities, as they respond to and implement JCAHO requirements for improving patient transitions across the healthcare system(s).



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Terminology: Transitions in Care



- **Handoff**
 - hand-over
- **Change-over**
 - Change-of-shift
 - Giving Report
- **Sign-over**
 - Sign-off
 - Sign-out
- **Check-out rounds**

**Transfers
& Discharges**

3

Slide 3

A number of terms are applied to these transitions in care, differing by discipline (doctor, nurse), region and common usage. For the purposes of the JCAHO requirements, the broadest interpretation and framing of “handoff” will lead to maximum improvement in the handoff process, a time which has been shown to be very risky for patients.

It may also be valuable to view traditional discharges from inpatient services to be handoffs....to nursing home, family or self-care at home, from specialty to primary care, or home-assisted care, but with an opportunity to be explicit about the diagnoses, medications, and both treatment and follow-up plans.

Providers may think they already perform handoffs well, but the evidence suggests major gaps in care occur during these critical exchanges. Due to frequent misunderstandings, errors, and lost information, patients experiencing these errors and gaps may have higher rates of unexpected readmission, failure to adhere to their plans, misuse of medication, poor follow-up and potentially bad clinical outcomes.



Strategies and Tools to Improve Healthcare Handoffs and Transitions



**Communication During
Transitions in Health Care**

**Improve Continuity of
Care by Improving
Hand-offs**

4

Slide 4

The Basic Message:

(Under the umbrella of Patient Safety).... by improving the accuracy, structure and communication processes of handoffs, continuity and quality of patient care will be dramatically enhanced.



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Transfer of.....



- **Information**
 - Knowledge
 - Uncertainty
 - Plan
- **Authority**
- **Responsibility**



5

Slide 5



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Handoff Concepts



High Reliability Organizations

- Nuclear power
- NASA and Mission Control
- Aviation: CRM +
 - Air traffic control
 - Carrier flight deck
- Dispatch



6

Slide 6

Handoffs have NOT been studied or engineered in health care to the extent they have been researched and refined in High Reliability Organizations (HROs).

High reliability organizations (HROs), such as the nuclear power industry, aviation cockpits and air traffic control, Navy carrier flight deck, and NASA--Mission Control have developed, studied and formalized effective methods for safe transitions (HANDOFFS) in operations.

These methods are based on a deep knowledge of human factors and engineering design for safety. HROs acknowledge human fallibility, system complexity, ambiguity and uncertainty, limitations of individuals in learning, training and attention, continuity gaps, negative impact of fatigue on human performance, dynamic conditions, difficult decision making under time constraints and numerous system vulnerabilities.

This Slide: The flight deck graphics describe a clear communication system, used 100% of the time in a culture of SAFETY and ACCURACY.

- I have control (hand up).
- Stop! (arms crossed overhead), and
- Control is transferred to the pilot (salute).
- Communication is clear, concise, timely and unambiguous.



Strategies and Tools to Improve Healthcare Handoffs and Transitions



JCAHO NPSG 2E New Requirement (2006)

Implement a standardized approach to "handoff" communications, including an opportunity to ask and respond to questions.

TYPES

- ✓ Patient handoffs
- ✓ Nursing shift change
- ✓ Physician transferring complete or on-call responsibility
- ✓ Anesthesia to PACU nurse
- ✓ Nurse-MD handoff to inpatient unit
- ✓ Critical lab-imaging reports
- ✓ Hospital transfers
- ✓ Nursing home/Home health
- ✓ Other transitions in care

7

Slide 7

New Requirement 2-E states: Implement a standardized approach to “handoff” communications, including an opportunity to ask and respond to questions. This requirement is applicable to:¹

- Ambulatory health care
- Assisted living facility
- Behavioral health care
- Critical access hospital
- Disease specific care
- Hospital
- Laboratory
- Long term care
- Office based surgery
- Home care



The rationale is stated by the Joint Commission: The primary objective of a “handoff” is to provide accurate information about a patient’s/client’s/resident’s care, treatment and services, current condition, and any recent or anticipated changes. The information communicated during a handoff must be accurate in order to meet patient safety goals.

In health care, there are numerous types of patient handoffs, including but not limited to the following examples: (see types above on the slide).



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Implementation Expectations

- **Interactive communications:** questions between giver and receiver of information
- **Include up-to-date information** regarding care, treatment, services, condition, recent or anticipated changes
- **Interruptions limited** (to prevent information loss) and sufficient time allocated for handoff process
- **Require verification process:** repeat-back or read-back as appropriate
- **Receiver has opportunity to review relevant historical data,** including previous care, treatment, services

8

Slide 8

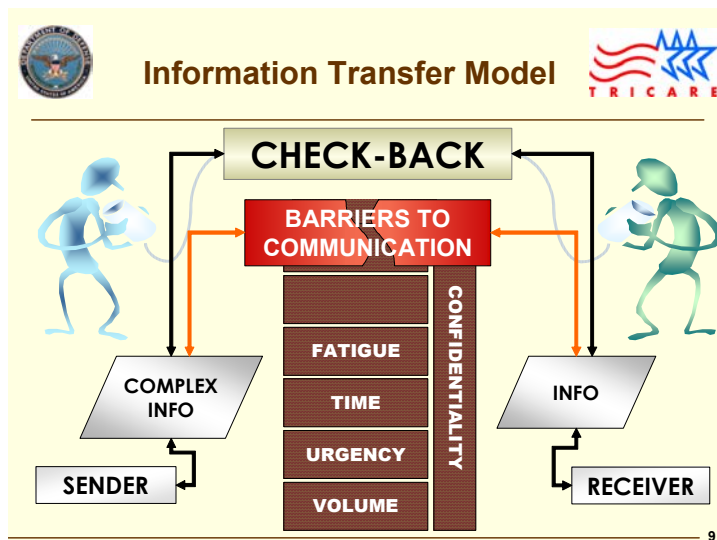
According to the JCAHO implementation expectations, (based on human factors research involving handoffs), the following are attributes of effective “handoff” communications:

- Handoffs are interactive communications allowing the opportunity for questioning between the giver and receiver of patient/client/resident information.
- Handoffs include up-to-date information regarding the patient’s/client’s/resident’s care, treatment and services, condition, and any recent or anticipated changes.
- Interruptions during handoffs are limited to minimize the possibility that information would fail to be conveyed or would be forgotten.
- Handoffs require a process for verification of the received information, including repeat-back or read-back, as appropriate.

The receiver of the handoff information has an opportunity to review relevant patient/client/resident historical data, which may include previous care, treatment, and services.



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Slide 9

It helps to have a model of information transfer and communication, to better understand the problems we face in health care. The model involves

- a SENDER of information and
- COMPLEX INFORMATION to be conveyed about a patient.

The process of getting this information to the RECEIVER faces many potential barriers, of which those listed are just a few:

- FATIGUE, TIME, URGENCY, VOLUME (of patients or information)
- CONFIDENTIALITY issues, including HIPAA requirements, can make this process more difficult.

For important information, accuracy of understanding is the key to success, and this can be VERIFIED by the process of CHECK-BACK, READ-BACK, and asking questions to clarify and correct.



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Recent Research



Evidence-based report

Ineffective handovers can lead to:

- Wrong treatment, delay in Dx., severe adverse events, patient complaints
- Increase H/C costs, length of stay (and more)

System

Culture

Individual

Australian Council for Safety and Quality in Health Care. *Clinical hand-over and Patient Safety Literature Review Report*; March 2005.
<http://www.safetyandquality.org/clinhovrlitrev.pdf>

Slide 10

The Australian Council for Safety and Quality in Health Care produced an excellent evidence-based analysis: Clinical Handover and Patient Safety—Literature Review Report in March 2005. This report substantiated and referenced the harm produced by ineffective handoffs and medical transitions, stating that.....

INEFFECTIVE HANDOVER can lead to:

Wrong treatment, delays in medical diagnosis, life-threatening adverse events, patient complaints, increased healthcare expenditures, Increased hospital length of stay, "...and a range of other effects that impact on the healthcare system" (including litigation)".

The literature, unfortunately, did not identify specific best practices for handoffs, however it did deem handoffs an area ripe for future quality research. The committee did categorize the analysis of the scientific studies into system factors, organizational cultural factors, and individual factors, with statements, opinions and conclusions listed in the monograph.



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Recent Research



**"How to Study 'Hard-to-see-things':
Shift Change in the Emergency Department"**

- Poorly studied, despite importance
- Shift change as a **source of Failure**
- Shift change as a **source of Recovery**

Wears R, Roth E, Patterson E, Perry S. "Shift Change Signovers as a Double-Edged Sword: Technical Work Studies in Emergency Medicine". Society for Academic Emergency Medicine, Annual Meeting. New York, NY; May 25 2005.
<http://www.saem.org/meetings/05hand/wears.ppt>

Slide 11

Handoff: Point of vulnerability ---AND---Opportunity for error detection and recovery


Emily Patterson and coauthors identified and described strategies employed during handoffs in four settings with high consequences for failure.⁴ They concluded that these principles, tools and strategies could be applied in healthcare operations and "jumpstart" endeavors to modify/design handoffs to improve patient safety. Space shuttle mission control, nuclear power, railroad dispatching and ambulance dispatching were the primary areas for observational studies. Of interest, the handoff was seen as both a point of vulnerability and a potential time of recovery and error detection (fresh set of eyes). Analysis of 21 handoff coordination and communication strategies revealed similarities and differences compared to healthcare settings, which did not have updated "see-at-a-glance" information systems and depended on indirect or delayed communication systems, such as pagers, recorders, phones, faxes, and hand-written notes rather than immediate links.

The wide variability of handoffs across healthcare systems creates further challenges not seen in the industrial settings. Problem areas identified by the authors for health care included timing-schedules, limited information technology system support, indistinct responsibility transfers, and the potential tradeoff between effectiveness and efficiency.




Strategies and Tools to Improve Healthcare Handoffs and Transitions





Recent Research



Observed 5 EDs in US and Canada

Similarities:	Differences:
MD-RN transition separately, no formal tools, consistent order among pts, <u>interactional</u> —not transactional, frequent interruptions (no back stage), used 4-phase pattern	Variable locations, mechanisms vary, nature of turnovers varies in context

One size does NOT fit all

Perry, Shawna J. "Transitions in Care: Emergency Department Signovers". (ibid)
<http://www.saem.org/meetings/05hand/wears.ppt#42>

Slide 12

Several studies focused on emergency department operations.⁵ Observations in five EDs in North America included transitions during shift changes for doctors and nurses, but also involved handoffs between EMTs and ED staff and from ED staff to inpatient services.⁵ As expected, there has marked variability in handoffs across settings and circumstances, but there were some similarities:

Handoffs were always interactive, with the oncoming actively eliciting information, asking for clarification, seeking clarification, and identifying omissions or inconsistencies. The shared mental model was a “joint construction, with contributions involving both parties in the handoff.

Specific exchanges included updates on individual patients, but also global information about resources, support services and ED functionality.

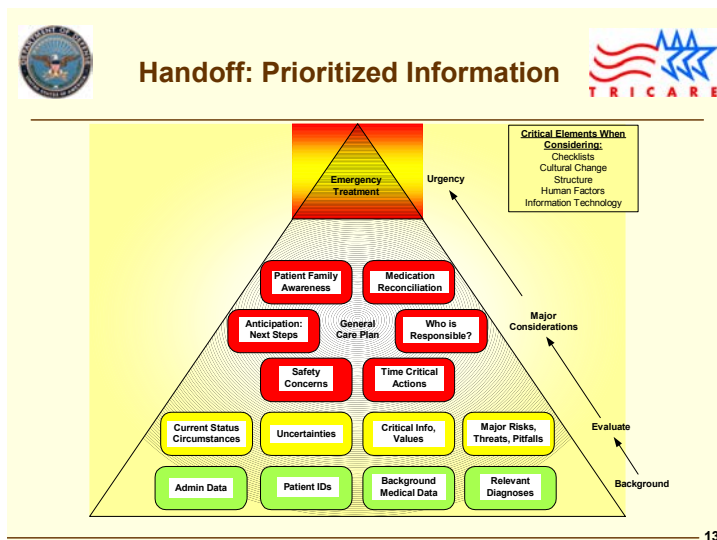
- Patients were covered in a standard order to avoid omissions, often bed-by-bed.
- Discussions were usually initiated and terminated by the oncoming provider.
- Handoffs expanded and contracted based on time, volume, urgency, confidence, experience, and credibility
- Physicians and nurses almost never did handovers together or as a team

Handover “genres” were identifiable depending on the amount effort and interaction required by the oncoming provider and by the amount of certainty-uncertainty. If minimal interaction would be required, a patient might be presented as “all wrapped up and tied with a bow.” Some patients, usually newly arrived or complex, would require substantial doctor and/or nurse involvement, and therefore a more complex handoff, a “work in progress.”

Richard Cook: “Goal of medical handoff is *optimization*”



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Slide 13

Looking at WHAT information *should be transferred* at most HANDOFFS, these are most of the data elements. If one were *designing* an information technology support system for handoffs, these would be some of the data fields populated by the computer system.

Central to this is the General Care Plan, supported by the Admin Data, Patient Identification, Background Medical Data and Relevant Diagnoses.

In yellow, details of the patients STATUS and CIRCUMSTANCES, degree of certainty (so far) or uncertainties with pending tests, consults, etc. Critical Information (eg, recent diagnosis of active TB or CANCER) or CRITICAL LAB, such as very low or very high serum potassium or very low Hemoglobin.

Major RISKS, THREATS, PITFALLS are showcased (so that counter strategies can be developed to avoid them)

In RED, SAFETY CONCERNS eg, falls risk, name confusion and TIME CRITICAL ACTIONS, such as IV antibiotics or to O.R. w/I 4-6 hours

Stating explicitly the anticipated next steps or contingency plans and WHO is RESPONSIBLE for what and when, including patient/family responsibility. Is the PATIENT/FAMILY aware, informed so they can participate in informed decision making?


Medication Reconciliation: an important element of handoffs across the continuum of care.

At the top, EMERGENCY TREATMENT, highest priority, which includes ACTIONS that might proceed without some important information being handed off.




Strategies and Tools to Improve Healthcare Handoffs and Transitions





Handoff Info



	Admin Data	Patient IDs	Background Medical Data	Relevant Diagnoses
EXAMPLES	Insurance, Attending, Resident, Family support, Advanced directives	Full Name, ID number(s) Age, Sex Location	Pertinent Medications Pertinent History Previous Treatment	Important / relevant DXs and recent procedures

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Slide 14

Basic and background information....



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Handoff Info

EXAMPLES

Current Status Circumstances	Uncertainties	Critical Info, Values	Major Risks, Threats, Pitfalls
Circumstances** Condition: Undetermined, Good, Fair, Serious, Critical Resuscitation status, e.g. DNR	Information pending: Labs, Imaging studies, Results, Consultations Clarify "what we don't know"	*See numerous publications	E.G. Falls, Thromboembolic, Arrhythmia, GI bleed, Suicide Risk Common complications **(avoidance strategies)

Slide 15

During HANDOFFS, it is important to create a clear picture (shared mental model) of the patient's condition and circumstances and to focus on key elements that often are neglected during transitions in care:

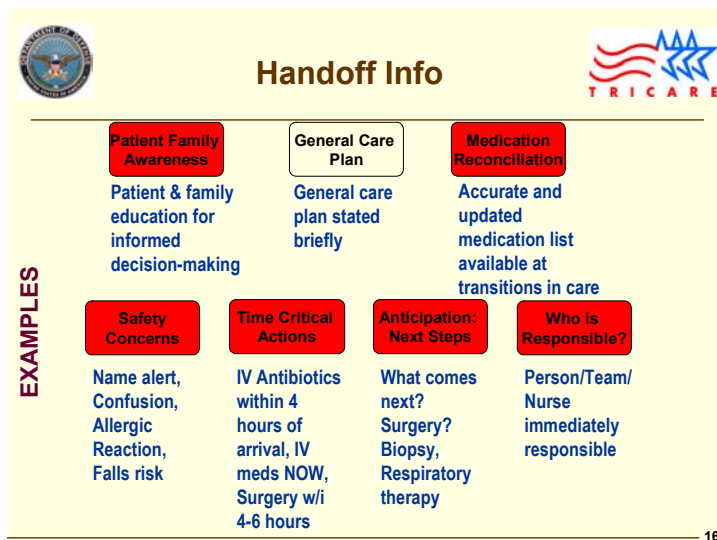
The degree of certainty or uncertainty about WHAT is going on with the patient, eg, likelihood of a diagnosis, worrisome diagnoses that are still in the differential, or important PENDING labs, studies or consultations.

Sometimes, CRITICAL VALUES (eg, low serum potassium or very low hemoglobin) or CRITICAL STUDIES (eg, new diagnosis of pulmonary Tuberculosis or high suspicion of CT/MRI for previously undiagnosed CANCER), are not recognized or acted upon because the critical information was not passed on during transitions in care... "the ball was dropped..."

Mentioning and addressing major RISKS, PITFALLS, THREATS, known COMPLICATIONS helps the oncoming responsible provider focus on prevention or early treatment strategies. These are areas often lost in transitions and handoffs from one team/provider to another.



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Slide 16

These ELEMENTS of handoff provide an opportunity to EXPRESS and CLARIFY....
SAFETY CONCERNS

The GENERAL CARE PLAN (including protocol usage)

TIME CRITICAL ACTIONS, setting goals and expectations....

- eg, IV Antibiotics within 4 hours
- or to SURGERY within 4-6 hours
- or Head CT within 1 hour

ANTICIPATION, NEXT STEPS - Often, it helps to clarify the sequence of care, what comes next, contingency plans and expectations. Making the plan EXPLICIT helps in transitions where there are knowledge or experience differences.....to avoid false assumptions

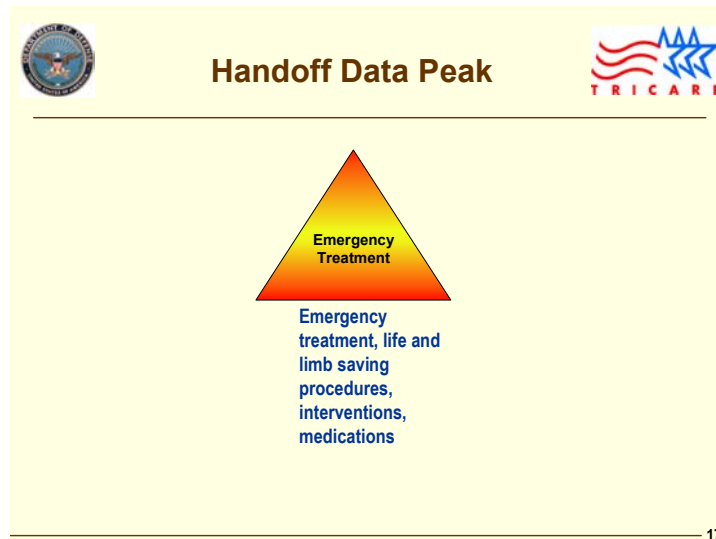
WHO is RESPONSIBLE - Some RCAs revealed that no one knew WHO was in charge, which doctor, nurse or team was responsible for actions, decisions, communicating with the patient

PATIENT SAFETY AWARENESS - Stating or ensuring that the patient and family are informed and the degree to which they are participating or planning to be involved in decision making, ongoing care, etc.

MEDICATION RECONCILIATION - a major problem and system concern which must be accurately dealt with and clarified during handoffs and transitions in care. This requires information technology solutions, cultural change, system improvements, and multi-disciplinary integrated communication and updating of medications, doses, routes of administration, schedules and monitoring and adjusting related to side effects, complications and adverse drug interactions



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Slide 17

At the peak of the Handoff Data Triangle is the element of EMERGENCY TREATMENT. Reality, flow and process will occasionally require that emergency actions be taken before the rest of a formal or complete handoff can be reasonably undertaken. Regardless, it is clear that having a more complete picture (by covering the other elements of the handoff) will allow the delivery of safer quality care.



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Handoff: “5-Ps”

Ensure that proper information is passed along when patients are transferred or provider shifts change. Use the five Ps:

- Patient
- Plan
- Purpose
- Problems
- Precautions

After instituting guidelines with the behavior-based expectations, Sentara experienced the following:

21% increase in effective handoffs.

Gary Yates, Sentara Healthcare. Panel 1—Promising Quality Improvement Initiatives: Reports From the Field. AHRQ Summit—Improving Health Care Quality for All Americans: Celebrating Success, Measuring Progress, Moving Forward ; 2004.
<http://www.ahrq.gov/qual/qsummit/qsummit4.htm#sentara>

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Slide 18

Some organizations have successfully implemented programs for human factors-based process improvements, including the area of handoffs. This is a mnemonic that is simple, easy and convenient, but it probably is insufficient for more complex handoffs.

In Virginia, the “Five Ps” are successfully used by Sentara Health Care for Handoffs.


In the spectrum of handoff structure options being considered, it appears that the “Five Ps” mnemonic for handoffs reminds providers to discuss the Patient, Plan, Purpose, Problems and Precautions, which may be sufficient for a simple handoff. However, the concern is that the “Five-Ps” reminders may be relatively vague or incomplete, particularly for inexperienced personnel, for handoffs across disciplines or transitions from facility to facility.

The mnemonic could be expanded with subsystem reminders to cover other important elements in more complex patient handoffs.




Strategies and Tools to Improve Healthcare Handoffs and Transitions






Issues, Dilemma & Tradeoffs



- Ineffective methods: unstructured, one-way
- Time commitment and process changes needed throughout the continuum of care
- Extreme variability and uniqueness of handoffs and transitions
- Lack of focused research on healthcare handoffs



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Slide 19

What DOESN'T work?---- one-way, unstructured handoffs

The problems include the need for sufficient allocated TIME and need for CULTURAL CHANGE across most organizations

Added complexity for SYSTEMS is reflected in the unique nature of handoffs in different units, facilities, and for different providers.

There is NOT sufficient SCIENCE (yet) to TELL US HOW TO BEST do HANDOFFS.

The great dilemma for handoffs is the tradeoff between EFFECTIVENESS and EFFICIENCY.


If the system is overly simplified, information transfer is still vulnerable to distraction and loss---from failure to consider or misinterpretation. If the system is overly complex, unwieldy, and inefficient, front-line users will refuse to adopt the handoff tools or develop shortcuts, which fail to address the needed accuracy and structure intended to improve information transfer.

Richard Cook's challenge for handoff optimization leads to creating a system that stimulates the individuals and teams engaged in a handoff brief to remember key elements and identify important data that is frequently neglected or forgotten .




Strategies and Tools to Improve Healthcare Handoffs and Transitions





Implementation Expectations JCAHO 2006



- **Interactive communications:** questions between giver and receiver of information
- **Include up-to-date information** regarding care, treatment, services, condition, recent or anticipated changes
- **Interruptions limited** (information loss)
- **Sufficient TIME allocated** to the handoff process
- **Require verification process:** repeat-back or read-back as appropriate
- **Receiver has opportunity to review relevant historical data,** including previous care, treatment, services

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Slide 20

This slide repeats an earlier slide stating the EXPECTATIONS held by the Joint Commission for IMPLEMENTATIONS. These are based on the human factors literature and research across HROs, which should be the model for handoffs in health care.




Strategies and Tools to Improve Healthcare Handoffs and Transitions





Innovation: IT Support



Observed clinical-pediatric ward hand-overs (UK); focused on vulnerabilities and purposes

- Transfer information; catch failures
- Complex discussions about Dx and Rx, developing (consensus) plans; educating junior doctors
- Setting priorities, assignments
- Social cohesiveness of ward

Developed information technology, tablet-based, appliance to support accurate hand-overs. "At-a-glance" state of the ward (ideal).

Wilson S, Fone J and Galliers J. Clinical hand-over Appliance (CHA): A Prototype Design. Technical Report, ACE/TR3/V1; 2004. HCID, City University.
<http://www-hcid.sol.city.ac.uk/research/TR-dev-design.doc>

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Slide 21


One of the greatest opportunities for improvement in healthcare transitions is to develop information technology support for handoffs.

Several healthcare systems which have instituted and studied IT system support have experience significant advantages, including improved accuracy, less physician or nurse time in preparing for handoffs and better/safer transitions for patients.




Strategies and Tools to Improve Healthcare Handoffs and Transitions






Innovations (Kaiser Permanente)



- Reframing discharges from the hospital as transfers (especially to nursing homes), but also information to primary care team
- Utilizing checklists and user-friendly forms focused on effective and efficient transfer of information
- Expanded I-SBAR format for verbal reports and handoff briefings

Information Technology 

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Slide 22

The HUMAN FACTORS working group at Kaiser has made significant improvements in COMMUNICATION to improve QUALITY and SAFETY.

The I-SBAR (Introduction-Identification, Situation, Background, Assessment and Recommendation) is extremely helpful in nurse-doctor telephonic communication to make the discussion objective, structured and useful to stimulate action or make a decision. It may be less useful as a tool for structuring handoffs, which represent a different set of communication problems. Yet, the I-SBAR as described above, including the expanded form, might be adapted to specific information transfer needs in some settings.

It may be better to specifically design a system, data set and structure with the goal of improving handoffs in healthcare transitions. The I-SBAR is currently being tested in several hospitals as a format for structured handoffs.

REMINDER: (Information Technology)

There is a significant opportunity for designing information technology support systems to aid HANDOFFS across the transitions in patient care




Strategies and Tools to Improve Healthcare Handoffs and Transitions





Conclusions



- **Transitions in care are a prime target for patient safety improvement efforts**
- **Patient harm creates the urgency**
- **Strategies developed in high reliability organizations (HROs) can be applied to health care**
- **JCAHO national patient safety goals for 2006 will accelerate the pace of change in applying human factor science to patient care handoffs**

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Slide 23

Transitions/handoffs are potentially dangerous for patients and therefore a great opportunity for improvement in patient care quality and safety

The HARM is the PROBLEM, and it is incumbent upon healthcare leaders and providers to improve handoffs

Proven strategies and tools, particularly regarding communication and processes, in industry can “jumpstart” the changes in health care.

The JCAHO National Patient Safety Goal REQUIREMENT is for implementation in facilities by 01 January 2006.

(This timeline does not allow much time to research the best practices or usual unit-based development of standard processes.)



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Conclusions (cont.)

The initiative to improve handoffs fits perfectly with other **team communication** tools

- **I-SBAR**
- **Briefs and huddles**
- **Check-back, read-back**
- **Closed-loop communication with verification**

But the highly variable written elements to accompany the verbal reports will require effort, coordination and balance between effectiveness and efficiency ...

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Slide 24

Many DoD facilities have instituted teamwork training systems, such as MedTeams, Medical Team Management, or TEAMSTEPPS. These train-the-trainer programs have included integrated tools and strategies to enhance performance and patient safety. These have included:



- Communication Briefs and Huddles
- Debriefs to improve processes with quality feedback
- Communication tools and strategies
- Read-back
- Check-back
- Call-outs
- Two-Challenge Rule
- Handoffs
- SBAR [Situation, Background, Assessment, Recommendations]
- Conflict resolution (DESC Script)

Given the complexity and variability of HANDOFFS across the continuum of care, both written and verbal, a structured system must be developed that seeks a rational balance between effectiveness and efficiency (ie, optimized handoffs).



Strategies and Tools to Improve Healthcare Handoffs and Transitions





Actions to Improve Handoffs

1. **Physician, Nurse, Clinical CHAMPIONS and Leadership:**
 - Make improved handoffs a priority
 - Procedural change
 - Cultural change
2. **Handoffs redesigned (best practices/HROs)**
 - Limited interruptions, interactive, adeq. time
 - Question & Clarify: check-backs, read-backs
 - Unambiguous language

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Slide 25

What ACTIONS are RECOMMENDED to healthcare providers and facilities, based on research, HROs, human factors research and JCAHO requirements?


Physician, Nurse and Clinical CHAMPIONS supported by LEADERSHIP....making improved handoffs a priority, both in terms of improved processes and by encouraging a change in culture.... the culture that has defaulted to unstructured and suboptimal handoffs during the many transitions in care experienced by patients across the healthcare system(s).

Handoffs should BE DESIGNED in a rational and purposeful manner (based on HRO best practices) to be interactive, be controlled to the extent of limiting interruptions to the handoff process (lost information and error), be allocated sufficient TIME for accurate information exchange and discussion. There should be an environment where questioning and clarifying is the routine and is expected. Communication tools, such as check-backs and read-backs should be encouraged. Use of ambiguous and muddled language would be replaced by unambiguous, clear, concise information




Strategies and Tools to Improve Healthcare Handoffs and Transitions





Actions to Improve Handoffs



- 3. Structure handoffs: mnemonic, template, checklist
 - Such as, “*I PASS* THE *BATON*”
 - Microsystem adaptations
 - Cultural change
 - Clinician education and feedback from clinicians
- 4. In addition to INFORMATION....
 - Responsibility, Accountability, Authority
 - Explicitly transferred

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Slide 26

MORE ACTIONS RECOMMENDED:

STRUCTURED (Standardized) HANDOFFS should be utilized by microsystems and across the continuum of care. The mnemonic “*I PASS* THE *BATON*” is offered as an optimized reminder of key information, neither too much nor too little. It would remind clinicians of some often neglected information, the inclusion of which can dramatically improve the handoff process. Other options for simple handoffs might be the “Five Ps,” or I-SBAR, although they tend to over simplify the process and might lead to information loss. The Prioritized Handoff Triangle may be a more robust reminder for complex transitions in care.

In addition to the medical information transfer-exchange, there must be a clear transfer of responsibility, accountability and authority, in order to counter the often encountered question of WHO is in charge, who is assisting informed patients in making optimal healthcare decisions?



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Actions to Improve Handoffs



5. **Structure handoffs: incoming provider has opportunity to REVIEW**
 - Pertinent historical data
 - Previous treatment, care, services, reports
 - Previous recommendations and plan
6. **Information Technology Support**
7. **Handoff improvement, research, identification of best practices, sharing in the future**

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Slide 27

ACTIONS RECOMMENDED:

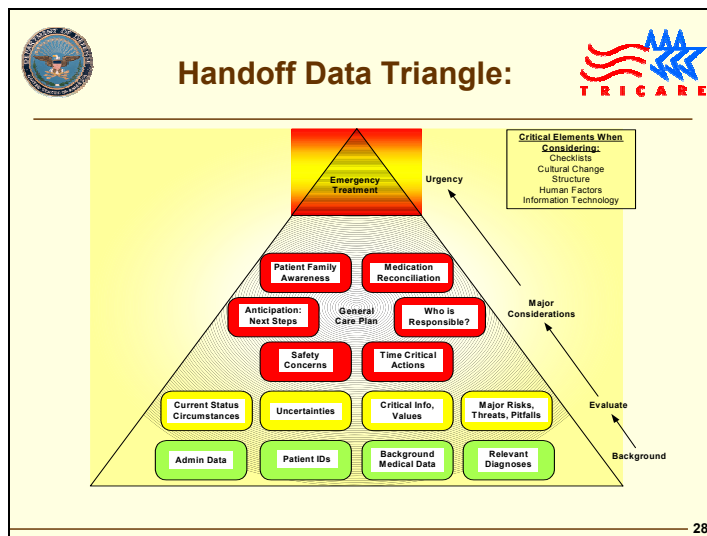
The oncoming provider should be given the opportunity to REVIEW pertinent historical data involving previous treatment, care, services, recommended plan, reports and important information. In many current systems, this information is NOT available to the oncoming provider or team, which may create situations of dangerous unawareness of critical information (which is necessary to good decisions and avoidance of error).

In the long run, information technology systems must be available to make the handoff processes more efficient AND more effective.

As providers and facilities implement systems to improve handoffs, there should be follow-up research, identification of best practices, utilization of continuous improvement methods and sharing of the results and conclusions across the systems-at-large.



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Slide 28

This Handoff Data Triangle offers a STRUCTURED matrix indicating the prioritized information elements which must be considered for quality and safety during complex transitions in care.



With use and feedback, it may lead to checklists, new or improved future structures, a culture change for handoffs and probably to information technology support systems for handoffs.

Feedback from clinicians will guide its transformation toward a structure that is optimized for effectiveness and efficiency.



Strategies and Tools to Improve Healthcare Handoffs and Transitions





"I PASS_{THE} BATON"

I ntr	I ntr
P at	P at
A ss	A ss
S itu	S itu
S af	S af
T he	
B ack	B ack
A ct	A ct
T im	T im
O wn	O wn
N ext	N ext

Question, Clarify and Confirm

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Slide 29

The mnemonic: "***I PASS** THE **BATON***" may be the BEST OPTION for structured handoffs that is:

- EASY to use, not overwhelming, yet not overly simplified
- REMINDS clinicians to address areas of handoffs that are often forgotten or neglected
- OPTIMIZED for most healthcare handoffs, once understood, taught and implemented by clinical leaders
- Utilized in a culture that promotes interactive communication to QUESTION, CLARIFY, and CONFIRM the information and processes

**Please see the handout that further explains this mnemonic



Strategies and Tools to Improve Healthcare Handoffs and Transitions



Slide 30

This slide creates an at-a-glance view of JCAHO requirements for modifying the environment and processes of healthcare handoffs

..... and offers reminders of the information quality that is the foundation for “***I PASS THE BATON***”

The BIG PICTURE GOAL:

Providers, units and facilities will ACT to improve handoffs during transitions in health care, and in doing so, will benefit patients with greater continuity, information accuracy and enhanced clinical outcomes.

[You may want to HANDOFF the responsibility and challenge to your audience to carry out this mission]



Strategies and Tools to Improve Healthcare Handoffs and Transitions





What to do from here...

- Leadership support & clinician champions
- Handoff Toolkit education, marketing, dissemination to....
 - Patient Safety Managers
 - Department-Division and Unit Heads,
 - Quality and Continuous Improvement
- Options versus “standard” but follow JCAHO expectations
 - Microsystems applications, work-unit opportunities
 - IHI-like offering: take it, try it, study it, change it
- Next Steps: MTFs & Units, work with Service reps for...
 - Timing, Coordination
 - Communication plan and marketing
 - Feedback, best practices, sharing

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Slide 31

WHAT ARE the NEXT STEPS for our organization (s)?

It is critical to have leadership support and clinical champions, who are willing to take this initiative for action, design and teach handoffs that will work in their clinical units (microsystems) and strive to integrate handoffs across the many transitions in care.

WHO CAN HELP? Safety managers, quality and continuous improvement staff, Department and Unit Heads, Charge Nurses, unit managers, team leaders, ombudsmen, liaisons, working groups, information-systems experts, marketing and communications experts, knowledge leaders, educators, change leaders, innovators, and patients.

The limitations on science-based recommendations leads to “expectations” from the JCAHO and “jumpstarting” the process of handoff improvement in health care using principles from HROs and human factors, and “options” rather than standards in THE HANDOFF TOOLKIT, which may be considered

- Value-added background information
- Resource for adapting materials to local needs
- Options and recommendations for implementation

PLUS: Setting the timeline, coordinating the implementation plan, getting feedback, evaluating the results, sharing best practices



Appendix B: Marketing

Illustrations



Information



* Responsibility

* Accountability

* Authority

Poor Information
Transfer

Transfer of
Poor Information





Handoff Improvement--- An Integrated Graphic:



Individual commitment to a group effort -
that is what makes a team work, a company
work, a society work, a civilization work.
Vince Lombardi



JCAHO NPSG 2E New Requirement (2006)



**Implement a standardized approach to
"hand off" communications, including an
opportunity to ask and respond to
questions.**

TYPES of HANDOFF COMMUNICATION

- ✓ **Patient handoffs**
- ✓ **Nursing shift change**
- ✓ **Physician transferring complete or on-call responsibility**
- ✓ **Anesthesia to PACU nurse**
- ✓ **Nurse-MD handoff to inpatient unit**
- ✓ **Critical lab-imaging reports**
- ✓ **Hospital transfers**
- ✓ **Nursing home/Home health**
- ✓ **Other transitions in care**



Terminology: Transitions in Care

Transfers / Discharges / Referrals

Handoff

Handover

Change - Over

Change-of-Shift

Giving Report

Referral/Consults

Sign - Over

Sign-Off

Sign-Out

Refer to Specialist/Networks

Check - Out Rounds



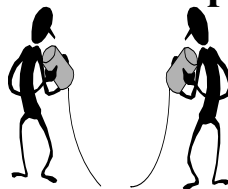
How to Implement Handoff Communication Process



Interactive communications: questions between giver and receiver of information



Include up-to-date information regarding care, treatment, services, condition, recent or anticipated changes



Interruptions limited to prevent information loss



Require verification process: repeat-back or read-back as appropriate



Receiver has opportunity to review relevant historical data, including previous care, treatment, services



IMPROVING HEALTHCARE COMMUNICATIONS DURING TRANSITIONS IN CARE

“I PASS THE BATON” COMING SOON

- **Meets JCAHO’s 2006 National Patient Safety Goals**
- **Applies to both ambulatory and hospital facilities**
- **Allows healthcare providers and leadership to make improved handoffs a system priority**
- **Formal and structured process to transfer responsibility, accountability, and authority of patient care**
- **Allows for opportunities to ask questions and clarify amongst colleagues**
- **Based on health-services research and best practices**

For further information, please contact your
Patient Safety Manager.



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Selected Quotes

- Recent advances in team communication have created an excellent opportunity to improve quality and safety in health care across America by using more accurate and structured methods of transferring information during handoffs and transitions in patient care.
- New [JCAHO] Requirement 2-E states: Implement a standardized approach to “handoff” communications, including an opportunity to ask and respond to questions.
- The motivations for change include careful analyses and conclusions derived from studying root causes of sentinel events and poor medical outcomes across a variety of healthcare systems, stemming from lost information, misinterpretation and misdirected or missed actions.
- HROs [High Reliability Organizations] acknowledge human fallibility, system complexity, ambiguity and uncertainty, limitations of individuals in learning, training and attention, continuity gaps, negative impact of fatigue on human performance, dynamic conditions, difficult decision making under time constraints and numerous system vulnerabilities.
- This report substantiated and referenced the harm produced by ineffective handoffs and medical transitions, stating that ineffective handover can lead to wrong treatment, delays in medical diagnosis, life-threatening adverse events, patient complaints, increased healthcare expenditure, increased hospital length of stay, “...and a range of other effects that impact on the healthcare system” (including litigation).³
- They concluded that these principles, tools and strategies could be applied in healthcare operations and “jumpstart” endeavors to modify/design handoffs to improve patient safety.⁴
- Problem areas identified by the authors for health care included timing-schedules, limited information technology system support, indistinct responsibility transfers, and the potential tradeoff between effectiveness and efficiency.⁴
- Of interest, the handoff was seen as both a point of vulnerability and a potential time of recovery and error detection (fresh set of eyes).⁴
- Behara cites Richard Cook, who has suggested that the goal of handover is optimization---providing sufficient information and enough of the relevant picture so the oncoming caregiver can “spin up to operational speed quickly, should the need arise.”⁵
- The **preoperative brief** is a powerful tool to “bring the entire OR team onto the same page” (shared mental model); remove incorrect assumptions; clarify the intended plan and contingency plans; obtain key information from surgeons, anesthesia provider, circulating nurse and surgical technologist or scrub nurse that enhance patient care safety and quality; and develop counter-strategies to common pitfalls, errors, and complications. This sharing of information and opening the door to multidisciplinary communication and working together (mutual support) create and sustain a teamwork approach that values input from all team members..... **Handoff briefs** offer the continuity needed to maintain



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awareness of the original preoperative brief and of updated information, changed by the dynamic nature of surgical cases.

- Information support systems, both hardware and software, if properly designed and tested could be extremely beneficial in handoffs and continuity of care.
- A balanced template for handoffs across the continuum of care should be based on human factors knowledge, an understanding of medical errors commonly seen during healthcare transitions, the realities of the complex processes of care, JCAHO mandates and the potential tradeoffs between effectiveness and efficiency.
- If the system is overly simplified, information transfer is still vulnerable to distraction and loss---from failure to consider to misinterpretation. If the system is overly complex, unwieldy, and inefficient, front-line users will refuse to adopt the handoff tools or develop shortcuts, which fail to address the needed accuracy and structure intended to improve information transfer.
- The **Handoff Data Triangle** offers a reminder matrix for many of the key elements involved in patient handoffs. It is specifically designed, based on the handoff literature, to assist providers (engaged in the transition process) cover the important areas in a rational and intuitive, prioritized manner.
- The “***I PASS*** THE ***BATON***” mnemonic was designed as a handoff tool which might be seen as intuitive and optimized to cover the key areas for both simple and complex patient care handoffs.
- Knowing there is insufficient evidence today to promote a short-term best practice, these tools should be seen as starting points, similar to many healthcare initiatives, where feedback, redesign, health services research, gathering of evidence and sharing best practices become the method for continuous improvement.



**Goal: Optimize handoff information--- balance
the scale weighing effectiveness and efficiency**



Appendix C: FAQs

? Why Focus on Handoffs?

Transitions in health care occur millions of times every day across America, but they tend to be unstructured and incomplete. From review of Sentinel Events and Root Cause Analyses, these handoffs have been identified as the source of significant medical error and tragic patient outcome.

? Why now?

The Joint Commission's 2006 National Patient Safety Goals include a new requirement (2-E) regarding communication "...to implement a standardized approach to 'handoff' communications, including an opportunity to ask and respond to questions." The rationale for this requirement relates to avoidable errors and patients harmed during medical handoffs *and* the national opportunity to dramatically improve this nagging, system-related problem. The implementation deadline is January 1, 2006.

? What transitions in health care are involved?

The definition of handoff is very broadly interpreted, such as nursing shift change; doctor-to-doctor or team-to-team on-call or cross-coverage of patients; pre-operative to intra-operative to post-operative care from anesthesia provider to post-anesthesia care to inpatient care team; Emergency Department transition/admission to inpatient service; and inpatient service to nursing home or home health care. Even the flow of information, such as lab reports, can be seen as a handoff.

? What service areas are considered?

According to JCAHO, ambulatory health care, assisted living facility, behavioral health care, critical access hospital, disease specific care, hospital, laboratory, long-term care, office based surgery and home care are all areas where improvements in handoffs must occur.

? What changes must be made?

Based on human factors and health-services research, best practices in high-reliability organizations (HRO), and expert opinion in areas of teamwork and healthcare communication, the Joint Commission expectations have been published:



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- Handoffs are **interactive** communications allowing the opportunity for questioning between the giver and receiver of patient/client/resident information.
- Handoffs include **up-to-date information** regarding the patient's/client's/ resident's care, treatment and services, condition, and any recent or anticipated changes.
- **Interruptions are limited** during handoffs to minimize the possibility that information would fail to be conveyed or would be forgotten.
- **Sufficient time is allocated** for the process to be successful.
- Handoffs require a **process for verification** of the received information, including repeat-back or read-back, as appropriate.
- The receiver of the handoff information has an opportunity to review relevant patient/client/resident historical data, which may include previous care, treatment, and services (**opportunity for chart, record, report review**).

? How can patient care quality and safety be improved during handoffs?

1. Physician, nurse and clinical champions join leadership in making improved handoffs a system priority, including needed procedural and cultural changes.
2. Handoffs are redesigned based on best practices and human factors research using successful communication techniques and strategies, to include:
 - Limited interruptions
 - Make handoffs interactive, with opportunity to question and clarify
 - Verify with check-backs, read-backs
 - Use unambiguous language: avoid jargon, confusing terms, and unacceptable abbreviations.
3. Information transfer is structured, using assistive mnemonics, templates and/or checklists (to decrease the likelihood of lost information and increase the accuracy and safety of the handoff), such as "*I PASS THE BATON*".

I	Introduction	Introduce yourself and your role/job (include patient)
P	Patient	Name, identifiers, age, sex, location
A	Assessment	Presenting chief complaint, vital signs and symptoms and diagnosis
S	Situation	Current status/ circumstances, including code status, level of (un)certainity, recent changes, response to treatment
S	Safety Concerns	Critical lab values/reports, socio-economic factors, allergies, alerts (falls, isolation, etc.)
THE		
B	Background	Co-morbidities, previous episodes, current medications, family history



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A	Actions	What actions were taken or are required AND provide brief rationale
T	Timing	Level of urgency and explicit timing, prioritization of actions
O	Ownership	Who is responsible(nurse/doctor/team) including patient/family responsibilities
N	Next	What will happen next? Anticipated changes? What is the <u>PLAN</u> ? Contingency plans?

4. Responsibility, accountability, and authority are explicitly transferred in addition to the structured handoff of information.
5. Handoffs are structured to include the opportunity of the oncoming care provider(s) to review relevant patient/client/resident historical data, which may include previous care, treatment, services, reports, recommendations.
6. Consider the short term and long term opportunities for Information Technology system support for the handoff process, as part of an electronic medical record. Such advances would increase the effectiveness AND efficiency of handoffs during transitions in care.
7. Handoff improvement is framed as an ongoing opportunity, supported by future research, eventual clarification of the impact of tools and strategies on patient outcome, and identification of best practices, which are then shared across the healthcare system.



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Conclusions: This system enhances patient care by decreasing patients missed on resident rounds and improving resident-reported quality of sign-out and continuity of care. It decreases by up to 3 hours per week (range 1.5 to 3) the time used by residents to complete rounds; it diverts prerounding time from recopying data to more productive tasks; and it facilitates meeting the 80-hour work week requirement by helping residents finish their work sooner.



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Chapter 10: Handoffs and Fumbles

Excerpt: *Internal Bleeding: The Truth Behind America's Terrifying Epidemic of Medical Mistakes*

By Robert Wachter, MD, and Kaveh Shojania, MD

Rugged Land, LLC

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441 pages

ISBN: 1590710169

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